103/3

U.S. Department
of Transportation
**Federal Aviation
Administration**

Federal Aviation Regulations

NEWARK PUBLIC LIBRARY

DEC 2 1982

U. S. GOVT. PUBS.
DEPOSITORY 376

Part 103
Ultralight Vehicles

Published
October 4, 1982

For sale by the Superintendent of Documents, U.S. Government
Printing Office, Washington, D.C. 20402

3/3/ch. 3

FEDERAL AVIATION REGULATIONS

K PUBLIC LIBRARY
JUL 8 1985
S. GOVT. PUBS.
DEPOSITORY 376

Department of Transportation
Federal Aviation Administration—Washington, D.C.

CHANGE 3 **EFF. MARCH 14, 1985**

Part 103—Ultralight Vehicles

This Change incorporates Amendment 103-2, Airport Radar Service Areas, effective March 14, 1985, in Federal Aviation Regulation Part 103.

The effective date of the new material, which is marked by black brackets, is carried at the bottom of each page. Preamble pages and rearranged pages having no new material carry the Change number only.

Page Control Chart

Remove Pages	Dated	Insert Pages	Dated
P-13 and P-14	Ch. 2	P-13	Ch. 2
		P-14 thru P-25	Ch. 3
1	—	1	—
2	2/5/85	2	3/14/85

Suggest filing this transmittal at the back of the FAR. It will provide a method for determining that all Changes have been received as listed in the current edition of AC 00-44, Status of Federal Aviation Regulations, and a check for determining if the FAR contains the proper pages.

TD 4.6:

READEX MICRO

promulgated FAR Part 103 defining the operating requirements for ultralight vehicles (47 FR 38770). Those regulations became effective on October 4, 1982, and remain in effect today.

NEED FOR AMENDMENT

In recent months, there have been intrusions by aircraft into areas designated for space flight operations. Such intrusions have resulted in the disruption of launch and recovery operations and an increased concern for the safety of space flight support operations.

Additionally, there have been intrusions by aircraft into security areas designated for the President and other parties. Some of these intrusions have resulted in the activation of extensive security measures for protection of the President and the Presidential party and have raised serious concerns for the welfare of those being protected. While most of these incidents have not involved ultralight vehicles, ultralights present the same risks as certificated aircraft for the purposes underlying these protected areas.

In responding to the concerns raised by these intrusions, the FAA has reviewed the scope of the regulations prohibiting unauthorized aeronautical operations, including ultralight vehicles, within the designated areas. FAR Part 91, § 91.102 authorizes flight limitations in the proximity of space flight operations. Section 91.104 authorizes flight restrictions in the proximity of the President, Vice-President, and other public figures. FAR Part 103 prescribes rules governing the operation of ultralight vehicles. Sections 103.17 and 103.19 prohibit operation of an ultralight in various categories of controlled and special use airspace, including restricted areas and prohibited areas. However, neither Part 91 nor Part 103 expressly prohibits the operation of ultralight vehicles in areas designated for space flight operations, under § 91.102, or for Presidential security, under § 91.104.

In promulgating Part 103, it was the FAA's intent that ultralight operators comply with the same restrictions that are applicable to conventional aircraft operations in general under §§ 91.102 and 91.104. The preamble to Part 103 published in the *Federal Register* (47 FR 38775) cited both "Presidential security" and "the launch and recovery of rocket-powered vehicles" as grounds for the exclusion of ultralights from certain airspace. Neither Part 91 nor Part 103, as issued, contains language which technically prohibits ultralights from entering areas designated under §§ 91.102 or 91.104.

The FAA is concerned that continued absence of specific reference to §§ 91.102 and 91.104 flight restrictions in Part 103 may be construed by ultralight operators as permission to operate through these areas. Both the ultralight operator and the persons or operations for which the area is designated could be jeopardized by such flights, and the FAA remains convinced that any unauthorized ultralight vehicle operation in areas designated by §§ 91.102 or 91.104 results in an unsafe condition. In this respect, ultralight vehicles present the same potential threat as aircraft operated under Part 91, and the FAA believes that the provisions of §§ 91.102 and 91.104 should apply equally to both.

Because this amendment will serve to present disruption of space flight operations and infringement on secure areas for Presidential and other parties in the immediate future, I find that notice and public procedure hereon are not in the public interest and that good cause exists for making the regulation effective immediately.

Because this amendment imposes no additional burden on ultralight vehicle operators, this document involves a rulemaking action which is not a major rule under Executive Order 12291 and is not a significant rule under Department of Transportation Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). The economic impact of this regulation is so minimal that a full regulatory evaluation is not necessary.

ADOPTION OF THE AMENDMENT

Accordingly, Part 103 of the Federal Aviation Regulations (14 CFR Part 103, Subpart B—Operating Rules) is amended by adding § 103.20.

(Secs. 307 and 313(a), Federal Aviation Act of 1958, as amended (49 U.S.C. §§ 1348, 1354(a)); 49 U.S.C.§ 106(g) (Revised, Pub. L. 97-449, January 12, 1983); and 14 CFR 11.45.)

Amendment 103-2

Airport Radar Service Areas

Adopted: February 27, 1985 **Effective: March 14, 1985**

(Published in 50 FR 9252, March 6, 1985)

SUMMARY: This action adopts certain National Airspace Review .(NAR) recommendations concerning air traffic rules governing flight operations within airspace designated as "airport radar service area (ARSA)." Specifically, this action defines "airport radar service area" and establishes air traffic rules for operation within such an area. The initial airport radar service areas are established under separate rulemaking actions in Airspace Docket No. 84-AWA-31 for the Robert Mueller Municipal Airport, Austin, TX; the Port Columbus International Airport, Columbus, OH; and the Baltimore/ Washington International Airport, Baltimore, MD. Future notices will propose airport radar service areas for other locations.

FOR FURTHER INFORMATION CONTACT: Mr. William C. Davis, Airspace-Rules and Aeronautical Information Division, ATO-200, Federal Aviation Administration, 800 Independence Avenue, S.W., Washington, D.C. 20591, telephone (202) 426-8783.

SUPPLEMENTARY INFORMATION

Background

On April 22, 1982, the NAR plan was published in the *Federal Register* (47 FR 17448). The plan encompasses a review of airspace use and the procedural aspects of the air traffic control (ATC) system. The three main objectives of the NAR are:

(1) To develop and incorporate into the air traffic system a more efficient relationship between traffic flows, airspace allocation, and system capacity. This will involve the use of improved air traffic flow management to maximize system capacity and improve airspace management.

(2) To review and eliminate, wherever possible, governmental restraints to system efficiency levied by Federal Aviation Regulations (FAR) and FAA directive-reducing complexity and simplifying the ATC system.

(3) To revalidate ATC services within the National Airspace System with respect to state-of-the-art and future technological improvements. This will entail a complete review of separation criteria, terminal control area/terminal radar service area (TCA/TRSA) requirements, instrument flight rules/visual flight rules (IFR/VFR) services to the pilot, etc.

Organizations participating in the NAR task group are:

Federal Aviation Administration
Department of Defense
Air Transport Association
National Business Aircraft Association
Regional Airline Association
Aircraft Owners and Pilots Association
Experimental Aircraft Association
Helicopter Association International
Air Line Pilots Association

NAR RECOMMENDATIONS PERTAINING TO THE PROPOSAL

The comprehensive plan contains an administrative structure and detailed task assignments which resulted in recommendations to the FAA, including the NAR Task Group 1-2.2 recommendations set forth below.

NAR 1-2.2.1 REPLACE TRSA's WITH AIRPORT RADAR SERVICE AREAS (ARSA's)

"The Task Group recommends that the current Terminal Radar Service Area (TRSA) program—Airspace and Services—be discontinued. The Task Group further recommends that the concept identified herein as [airport radar service area (ARSA)] be implemented as replacement for the TRSA program in accordance with the recommendations to follow."

(The task group recommendations referred to the ARSA concept as "Model B Airspace." References to "Model B Airspace" have been replaced with the term "ARSA" for consistency with the terminology used in the FAA rule.)

NAR 1-1.2.2 ARSA SIZE AND OPERATING REQUIREMENTS

"The Task Group recommends that the physical dimensions of [an ARSA] shall be a 10 NM radius capped at 4,000 feet height above airport (HAA) from the primary airport. This airspace shall extend down to 1200 feet above the surface except that an inner core with a 5 nautical mile radius shall extend down to the surface. Except for aircraft departing from satellite airports/heliports within [an ARSA], all aircraft shall establish two-way radio communications with ATC prior to entering [an ARSA]. Aircraft departing satellite airports/heliports within the surface area of [an ARSA] shall establish two-way radio communications with ATC as soon as possible. Pilots must comply with approved FAA traffic patterns when departing these airports."

NAR 1-2.2.3 OUTER AREA LIMITS AND OPERATING REQUIREMENTS

"The Task Group recommends that the outer limit of [the area outside of the ARSA in which ARSA services are provided by an ARSA facility] be the same dimensions as the radar/radio coverage within each approach control's delegated airspace. While strongly encouraged, two-way radio communications is *not* a VFR requirement in [this airspace] and aircraft are not restricted from entering/transmitting this airspace."

NAR 1-2.2.4 ATC SERVICES

"Services provided within [an ARSA] shall be as follows: sequencing of arriving aircraft; IFR be provided standard IFR separation; IFR to VFR be provided traffic advisories and conflict resolution so that targets do not merge at the same altitude; and VFR to VFR be provided traffic advisories. Furthermore, aircraft operating outside [an ARSA but within the approach control's area of jurisdiction] will receive [ARSA] services upon establishing two-way radio communications and radar contact."

[NAR 1-2.2.5 Not applicable to this proposal]

NAR 1-2.2.6 AIRSPACE DESIGNATION CRITERIA

"The Task Group recommends that, excluding TCA locations, all airports with an operational airport traffic control tower and currently contained within a TRSA serviced by Level III, IV, or V radar approach control facility shall have [an ARSA] designated; unless a study indicates that such designation is inappropriate for a particular location. Any other location serviced by a radar approach control facility may be considered as a candidate location [an ARSA] on the basis of a thorough staff study considering, but *not limited to,* the following:

1. Traffic mix, flow, density, and volume.
2. Airport configuration, geographical features and adjacent airspace/facilities.
3. Collision risk assessment.
4. ATC capabilities to provide [ARSA] services to the users at maximum benefit and minimum cost.

All proposed [ARSA] actions shall be subject to regional and headquarters approval. Military operated facilities will process requests through appropriate military and FAA channels. Any [ARSA] location which fails to meet the establishing criteria for its respective location for more than 12 consecutive months, shall be subject to a regulatory review to terminate the [ARSA] designation."

NAR 1-2.2.7 CHARTING

"The Task Group recommends for further consideration by Task Group 1-6 that all [ARSA's] be charted, and that either a visual or narrative method of identifying the [area in which ARSA services are provided by an ARSA facility] be undertaken."

NAR 1-1.2.8 EDUCATION

"The Task Group recommends the aviation community be made aware of [the ARSA program] by educational programs to support ATC operational and procedural information, phraseology, practices, and the desirability of voluntary participation. Specifically, it is recommended:

1. All FAA pilot exams and appropriate textbooks must contain a significant amount of questions and information concerning radar operation in terminal areas. Specifically, operations and procedures be included in written and practical tests for pilot certification, ratings, and reviews.
2. Specific questions and answers must be required on all flight reviews and other appropriate occasions (air carrier initial and recurrent proficiency training, pilot proficiency exams, biennial flight review, etc.) to assure that users in every aviation community have shown a current understanding of radar terminal areas and their use of these areas.
3. The FAA develop and fund a traveling air traffic team to speak to pilot groups on operations within the National Airspace System; i.e., [ARSA]. Emphasis should be given to flight instructor contact.
4. An advisory circular dealing with [the ARSA program] be published to include well presented, up-to-date information on operations in terminal airspace and that this advisory circular be given the widest possible dissemination to aviation users and organizations.
5. The Airman's Information Manual (AIM) be distributed free of charge to all fixed-base operators (FBO's) at all public use airports.
6. FAA Public Affairs Office develop and promote through the general news media, aviation awareness of FAA services and publications available to the pilot and general public.
7. Facts about terminal airspace in some form of questionnaire be developed and distributed by the FAA to appropriate agencies (licensed pilots, fixed-base operators, business organizations, etc.). This questionnaire could be a public relations effort, advisory circular, or included in the Airman's Information Manual.
8. FAA continue to make available to interested pilot groups training or other audio-visual aids that deal with terminal radar operations."

A copy of the task group's report is in the public docket.

THE ARSA CONFIRMATION

In Notice 83-9 [July 28, 1983; 48 FR 34286], the FAA stated that it believed in the merits of the task group's recommendations, and set forth aspects of those recommendations which could be confirmed under a proposed Special Federal Aviation Regulation (SFAR) at Austin, TX, and Columbus, OH. After reviewing the proposal in the light of the comments received, the FAA issued SFAR No. 45 [October 28, 1983; 48 FR 50038] to accomplish the confirmation.

The FAA contracted with Engineering and Economic Research, Inc. (EER) to analyze user operational experience with the ARSA's at Columbus and Austin. A copy of the EER analysis is in the docket. The FAA, itself, conducted random informal evaluations of ATC procedures which were also being confirmed. Informal discussion between FAA management and air traffic controllers at Columbus and Austin concerning ARSA operations and air traffic procedures were conducted routinely. These activities revealed

that a significant majority of users approve of the ARSA concept in the NAR recommendations. The FAA also conducted a detailed analysis of comparative radar data gathered before and during the confirmation at Columbus, a copy of which is in the docket, and found that the ARSA produced a significant reduction in collision risk.

The FAA concluded that the confirmation at Columbus and Austin indicated probable benefits of the ARSA program for users at other locations. The confirmation also revealed an ARSA to be a practical replacement for a TRSA from an ATC procedural standpoint. On November 30, 1984, the FAA published Notice No. 84-22 which proposed air traffic rules governing flight operations within designated ARSA's (49 FR 47184).

ANALYSIS OF COMMENTS

The FAA received 17 comments on the Notice of Proposed Rulemaking (NPRM) published November 30, 1984, in Docket No. 23708, in addition to 15 comments received earlier in the same docket in response to SFAR 45, which included a request for comments. Also, several comments received in the related Airspace Docket No. 84-AWA-31 contained remarks pertinent to Docket No. 23708, and were considered in the development of this rule. Those persons who have an interest in either proposal are encouraged to review the comments submitted in both dockets.

Several commenters were critical of the comment period on the NPRM provided by the FAA, and requested an extension of the comment period. The FAA believes the period of notice and comment was sufficient to permit full public comment on the proposed rule. The flight rules adopted in this amendment have been the subject of extensive discussion and review by the aviation public as a result of the NAR process, by which the rules were recommended. Moreover, the designation of any particular site for establishment of an ARSA will be the subject of additional rulemaking, with the opportunity for additional public comment.

The comments received on the SFAR between December 1983 and August 1984 were generally critical of the ARSA concept, although not on the basis of actual experience with the Austin, TX, or Columbus, OH, ARSA's. Common comments were that the standardized ARSA airspace will not serve the intended purpose in areas of mountainous terrain, will discourage or preclude certain activities such as soaring near ARSA airports, and will inhibit free access to satellite airports within an ARSA. The FAA does not believe that any of the above criticisms constitutes an unsurmountable problem with establishment of the ARSA program or presents sufficient reason to depart from the general policy of establishing ARSA's in a standardized configuration. However, the actual configuration of any particular ARSA will take into consideration any unusual terrain features. Also, there are means to accommodate the presence of satellite airports and, where consistent with ATC safety and efficiency, VFR activities such as soaring. These measures are discussed in more detail below in connection with comments received in response to the most recent NPRM.

Comments received from organizations which participated in NAR Task Group 1-2.2 were generally supportive of the proposed ARSA rules. These groups included the Aircraft Owners and Pilots Association (AOPA), the Air Transport Association (ATA), the Experimental Aircraft Association (EAA), the National Business Aircraft Association (NBAA), the Regional Airline Association (RAA), and the Air Line Pilots Association (ALPA). In each case the above groups offered additional comments or requests which, together with other comments received, are discussed below by subject.

Establishment Criteria

Several commenters addressed the need for specific criteria for establishment (and disestablishment) of ARSA airspace at individual sites, rather than considering each existing TRSA as an automatic candidate for an ARSA. Recommended criteria included aircraft operations and passenger enplanements, proximity of other airspace complexes and other airports, and geography. AOPA also suggested that in addition to TRSA's,

those TCA's which currently do not meet the standards for establishment of a new TCA also be considered as candidates for replacement by an ARSA. One commenter also requested that any specific criteria developed by FAA for establishment of an ARSA first be proposed in an NPRM and published in the *Federal Register* for comment.

FAA consideration of most TRSA sites as candidates for ARSA's is adopted in response to NAR Recommendation 1-2.2.1. Initially, only those TRSA locations which are served by a Level III, IV, or V terminal radar facility will be considered for establishment. In each case, an ARSA would be established only after issuance of an NPRM and the opportunity for public comment on the merits of an ARSA at the proposed location. The impact on the proposed ARSA of local geography, adjacent airspace configurations, and nearby airports would receive full consideration by FAA not only in determining appropriate adjustments to the configuration of the ARSA, but also in determining whether it would be appropriate to establish an ARSA.

FAA is currently in the process of developing specific quantitative criteria, such as traffic and passenger enplanements, for example, for proposing the establishment of ARSA's for locations that are not TRSA's or that are not served by a Level III, IV, or V approach control facility. FAA will issue the criteria before proposing such additional ARSA locations. FAA does not intend to develop the criteria through the formal rulemaking process, but will take into consideration all comments relating to establishment criteria received in the docket.

FAA has not proposed to consider any existing TCA's for potential replacement by ARSA's, and does not adopt such a policy at this time.

Potential Impacts

Comments critical of the proposal generally involved concerns about increased delays, the exclusion of certain user groups, and potential safety impacts. Several commenters were concerned that establishment of an ARSA would increase traffic delays in that area as a result of unnecessary separation standards, extensive vectoring, and the difficulty in contacting ATC due to frequency congestion. Because participation in existing TRSA's is high, and separation standards in an ARSA are less than those in a TRSA (radar separation standards in an ARSA are less than 1.5 mile lateral standard for participating aircraft in a TRSA), FAA does not believe that the implementation of mandatory separation in ARSA's will result in any significant traffic delays. For the same reason, the FAA does not anticipate extensive or circuitous vectoring of aircraft in an ARSA. The NAR proposal was intended to minimize the vectoring or rerouting of VFR aircraft in affected terminal airspace, and this should be accomplished by the procedures implemented by FAA. Moreover, the only requirement to enter an ARSA is two-way radio communications with ATC. In the absence of subsequent ATC instructions, the pilot may proceed via his/her planned route. Finally, FAA does not believe that radio frequency congestion will result in delays or exclusion from an ARSA. When congestion is experienced, resource adjustments will be considered to resolve the problem.

A few commenters on the NPRM expressed concern that an ARSA would have the effect of excluding some VFR pilots, primarily recreational aircraft and sailplanes. The ARSA requirement for two-way radio communications does effectively preclude aircraft not having this basic communications capability from entering an ARSA, without special ATC authorization. FAA believes, however, in consideration of the safety benefits of the communications requirement, that the effects of the rule are limited and are fully justified. Moreover, as discussed below in connection with ARSA configuration, special procedures will be considered on a site-specific basis to permit access to nontower airports underlying an ARSA, without entering ARSA airspace. It may also be possible, at affected sites, to accommodate soaring and other recreational VFR flight activities in an ARSA through agreement with the controlling ATC facility. In the rulemaking which will precede the establishment of each individual ARSA, FAA will consider comments and suggestions on means for the safe and efficient accommodation of aviation activities which might otherwise be precluded by the proposed ARSA.

While none of the commenters on the NPRM claimed that an ARSA would reduce safety rather than enhance it, several safety-related issues were raised in comments on the NPRM and on the previous SFAR. One commenter suggested that controller workload would be substantially increased by the implementation of an ARSA. The FAA is confident that an increase in traffic will only result from the handling of aircraft not presently participating in the TRSA program and that any such increase would not cause a substantial increase in an individual controller's workload because of the present high level of participation in the TRSA program. However, if an ATC facility does experience a substantial increase in traffic handled, the FAA will take the necessary measures to ensure that adequate facilities and personnel are available to handle the increase.

Another comment was that the establishment of an ARSA, with its operating requirements, would lead many VFR pilots to avoid the ARSA, resulting in compression of traffic in adjacent areas. FAA does not believe that a significant number of pilots will choose to avoid ARSA airspace, given the minimum burden involved of contacting ATC. Also, the airspace taken by an ARSA is not extensive either laterally or vertically, and in most locations there is no reason to conclude that traffic circumventing the ARSA would be compressed into a confined area. A final safety-related comment received was the concern that provision of radar separation in an ARSA would generate a false sense of security in VFR pilots, and would undermine the duty to see-and-avoid other aircraft. See-and-avoid responsibility is not relieved or diminished in an ARSA, and FAA intends to make this responsibility clear in informational announcements and materials dealing with the ARSA program. However, FAA believes that any possible misperception of some pilots as to their see-and-avoid responsibilities in an ARSA environment, is an issue of pilot education, and does not support the nonadoption of the ARSA concept itself.

ARSA Configuration and Dimensions

Many of the commenters suggested changes to the ARSA dimensions as proposed, while others urged that no consideration be given to expansion of the proposed dimensions. Commenters generally supported the FAA policy of standardizing the dimensions of ARSA's, and NBAA in particular expressed concern at FAA's announced intention to consider "customization" of areas in certain circumstances. FAA has adopted the dimensions as proposed, and, in the absence of special circumstances, individual ARSA's will be proposed in the standard configuration. However, the existence of other airports or controlled airspace adjacent to the primary airport may present a situation in which the standard configuration is not feasible.

AOPA and EAA both requested that access to satellite airports within a proposed ARSA be protected. AOPA specifically requested that the traffic pattern of a satellite airport be excluded from the ARSA and depicted as a cutout from the ARSA on aeronautical charts. AOPA argued that traffic to and from satellite airports should not be required to participate in the ARSA, and that exclusion of the satellite airport traffic pattern from the ARSA is the only way to avoid pilot confusion. EAA suggested that access to satellite airports within the 5-mile core of an ARSA, without participation in the ARSA, could be allowed by retaining the provisions of FAR 91.85(b). Section 91.85(b) permits operation to and from the satellite airports in an airport traffic area. FAA believes that establishment of an ARSA will not necessarily have an adverse effect on access to satellite airports within the ARSA, and that where there is a potential for such effect, it can be resolved. Satellite airports with control towers, whether in the 5-mile core or the 10-mile shelf area, will require no adjustment of the ARSA configuration. Local procedures established between the satellite tower and the ARSA controlling facility will ensure that pilots remain in contact with the appropriate facility, and that access to the airport through ARSA airspace is not impeded. For nontower airports located under the 5- and 10-mile shelf, no reconfiguration of the standard ARSA is required because aircraft may approach and depart the airport below 1200 feet above ground level (AGL), and thereby remain clear of ARSA airspace. Nontower airports within the 5-mile core area present a more complex problem. It may be most practical to provide access to the airport

by letter of agreement or other special arrangement with the ARSA controlling facility. However, in situations where safety, traffic flow, or pilot understanding would be enhanced, the FAA will consider permitting unrestricted access to the airport below 1200 feet AGL. In such situations, cutouts would be depicted on the representation of the ARSA's on aeronautical charts.

AOPA renewed its request, first made in the NAR task group, that the upper limit of the ARSA airspace be set at 3000 feet above airport elevation rather than 4000 feet as proposed. This issue was considered by the NAR task group, and has been reconsidered by FAA in light of the operational experience at Austin and Columbus. Based on the majority recommendation of NAR Task Group 1–2.2, the comments of other users, and the experience with the Austin, TX, and Columbus, OH, ARSA's, FAA has retained the 4000 foot cap. FAA considers it desirable to have mandatory participation up to 4000 feet above airport elevation for the type of airports that will be eligible for the ARSA airspace designation, and we do not believe it necessary or beneficial to make the cap compatible with the upper limit of the airport traffic area, as AOPA suggests.

AOPA requests that the lower limit of the ARSA shelf be set at 1200 feet above the highest terrain in the 10-mile radius, and that the floor not be segmented to follow variations in terrain. FAA agrees that any segmenting of the floor in the 5- to 10-mile area should be kept to a minimum, but we believe that some segmenting will be appropriate in certain terrain situations. Each proposal to incorporate a segmented base altitude will be subject to further comment in the airspace rulemaking for that location.

Representatives of the Soaring Society of America and several individual sailplane pilots requested that in areas where soaring is now conducted within the proposed ARSA, either the ARSA be modified or special procedures be developed to permit the sailplane operations to continue without complying with ARSA communication requirements. FAA does not believe that a national policy of modifying the standard ARSA configuration or procedures is warranted, given the relatively small number of locations at which soaring would be conducted within an ARSA. However, at some proposed ARSA locations it may well be the case that there is substantial sailplane activity conducted in the local area, and that those sailplane operations could be adversely affected by the establishment of an ARSA. In those cases, FAA is willing to consider special procedures to accommodate the soaring, including arrangement with the local ARSA controlling facility to operate without radio equipment at certain times and in certain prearranged areas, if control and separation of other aircraft is not adversely impacted. Procedures for any particular location would be developed during the proposal and comment process, and would be specific to that location.

Finally, several commenters addressed the nonregulatory 20-mile limit of the area in which ARSA services are provided by ATC, but in which user participation is not required. NBAA found the 20-mile perimeter acceptable, but suggested that the areas of two adjacent ARSA's be connected. This suggestion will be considered in the airspace rulemaking at appropriate locations. ALPA objected to the 20-mile limitation and requested that radar service be provided to the limits of the controlling facility's radar coverage, as implemented during the operational confirmation. For the reasons discussed in the NPRM, FAA continues to believe that the 20-mile perimeter provides a high level of service to participating aircraft consistent with the resources of the local ATC facility, and, because of its uniformity, minimizes pilots' confusion about the services available.

Required Equipment

ATA requested that altitude-encoding transponders be required in addition to two-way radios for operation in an ARSA. FAA does not believe that transponders are required to effect the purposes of the TRSA program, and does not intend to propose a requirement for transponders in ARSA airspace.

EAA and the Soaring Society of America both expressed concern that the use of 25 kilohertz (kHz) frequency spacing, made possible by 720-channel radios, would constitute a

hardship for operators of small recreational aircraft having older 360-channel radio equipment. Because the rule requires two-way radio communications capability for operation in an ARSA, the use of the 25kHz spacing in ATC ARSA frequencies would effectively force these operators to upgrade their communications equipment. There is now a serious shortage of radio frequencies spaced at 100kHz intervals. The requirement for 720-channel radio capability for system users will likely increase independent of the ARSA airspace decision. At most of the locations for which ARSA's will be proposed, there is already a considerable demand for 720-channel radio capability, and FAA believes that the majority of aircraft using these airports already have this equipment. However, the extent that operators may need to install or upgrade aircraft radios at some potential ARSA sites will be assessed in the regulatory evaluation of a separate rulemaking proposing the designation of ARSA's at specific locations (see discussion in Economic Impact below).

Other Comments

A number of other comments were made concerning matters of operations under an ARSA, such as ATC procedures and the representation of ARSA's on aeronautical charts, which do not affect the substance or justification of the rule itself. FAA will take these comments into consideration in implementing designated ARSA's, but will not address them here.

ADOPTION OF NAR RECOMMENDATIONS

The FAA's action with respect to each of the aforementioned NAR recommendations is set forth below.

NAR 1-2.2.1 REPLACE TRSA's WITH ARSA's

While the adoption of this recommendation would indicate that the FAA is adopting all aspects of the other NAR recommendations addressed herein, the FAA has only adopted the aspect dealing with the discontinuance of TRSA's. The remaining aspects of this recommendation are treated individually. In that regard, all current TRSA locations will remain as such until they are cancelled or converted to ARSA's. Additionally, ATC procedures dealing with TRSA's will remain in place and aeronautical charts will continue to depict each TRSA until it is cancelled or converted.

NAR 1-2.2.2 ARSA SIZE AND OPERATING REQUIREMENTS

The physical dimensions of the ARSA and the operating requirements recommended by the task group are adopted except that the floors of the airspace between 5 and 10 miles may be segmented and will be expressed in altitudes above mean sea level instead of AGL because of variations in terrain elevations. This deviation is in the spirit of the task group's recommendations and every effort will be made to ensure that the ARSA airspace between 5 and 10 miles of each ARSA is not segmented except as necessary.

Additionally, some customizing of ARSA's may be required due to proximity of satellite airports and other regulatory airspace designations. However, customizing will be held to the absolute minimum required and the FAA foresees no situation that would necessitate extension of the ARSA airspace beyond 10 nautical miles.

NAR 1-2.2.3 OUTER AREA LIMITS AND OPERATING REQUIREMENTS

While the limit that was operationally confirmed at Austin, TX, and Columbus, OH, coincided with the extent of the approach control facility's delegated airspace, the FAA may not always have the resources or capability to provide the ARSA service to those limits. Further the FAA believes flexibility must be retained in establishing limits because of considerations which include: Proximity to TCA's; clustering of ARSA's; terrain; unusually high level of activity not related to the ARSA airport operation, and radio/radar coverage. Accordingly, the limits of the airspace outside each ARSA within which ARSA

services are provided will be depicted narratively on sectional charts in a manner similar to the method used for the confirmation. The procedures for establishing the limits will be implemented under the FAA directive system; therefore, user organizations will have another opportunity to provide comments regarding this subject.

NAR 1-2.2.4 ATC SERVICES

The ATC services that the task group recommended the FAA provide within the ARSA will be provided as recommended, and will be implemented under the FAA directives system. The services provided by ATC through mandatory participation in the ARSA will be available to pilots on a voluntary participation basis in other specified areas within the approach control's area of jurisdiction. These services will be in addition to the services and separation currently applied to aircraft operating under IFR. Specifically, ATC will: (1) Resolve potential conflictions between aircraft operating under IFR and aircraft operating under VFR by ensuring that 500 feet vertical separation exists between those aircraft or by ensuring that those aircraft's radar targets do not touch; and (2) provide traffic advisory service and arrival sequencing to aircraft.

Where there is a satellite airport with an operating control tower within the ARSA, the airport traffic area of the satellite airport will overlap the ARSA airspace. The requirements of the adopted rules apply in such airspace. Pilots approaching a satellite airport with an operating control tower will be provided ARSA services until they are in two-way communication with the tower. Pilots approaching a satellite airport without an operating control tower will receive ARSA services until they are instructed to change to the appropriate airport frequency; however, general traffic information concerning observed radar targets will be provided by ATC in such cases. Pilots departing a satellite airport will receive ARSA services upon establishing two-way radio communications with the ARSA facility.

The provision of ARSA services at any location is dependent upon operation of the local ATC facility. Hours of facility nonoperation, when ARSA requirements and services would not apply, may be specified in airspace rules for individual sites or by Notices to Airmen.

NAR 1-2.2.6 AIRSPACE DESIGNATION CRITERIA

This recommendation is adopted. The following is a list of TRSA locations that are candidates for conversion to ARSA's. In some cases under this recommendation, more than one ARSA would be created from a single TRSA; for example, there are three airports within the Ontario, CA, TRSA—Ontario International, March Air Force Base (AFB), and Norton AFB airports--that would be candidates for individual ARSA's. However each specific ARSA airport will be addressed separately in an NPRM.

ARSA Candidate Locations:

Anchorage, AK	Orlando, FL
Mobile, AL	Tampa, FL
Little Rock, AR	Macon, GA
Burbank, CA	Cedar Rapids, IA
Ontario, CA	Champaign, IL
San Diego, CA	Rockford, IL
Windsor Locks, CT	Fort Wayne, IN
Jacksonville, FL	Wichita, KS
Tallahassee, FL	Louisville, KY
Columbus, GA	Lake Charles, LA
Kahului, HI	Portland, ME
Boise, ID	Kalamazoo, MI
Peoria, IL	Gulfport, MS
Evansville, IL	Charlotte, NC
South Bend, IN	Raleigh, NC

Lexington, KY	Atlantic City, NJ
Lafayette, LA	Albany, NY
Baltimore, MD	Rochester, NY
Grand Rapids, MI	White Plains, NY
Saginaw, MI	Dayton, OH
Billings, MT	Oklahoma City, OK
Greensboro, NC	Allentown, PA
Omaha, NE	Toledo, OH
Reno, NV	Charleston, SC
Islip, NY	Bristol, TN
Syracuse, NY	Memphis, TN
Columbus, OH	Austin, TX
Youngstown, OH	El Paso, TX
Portland, OR	San Antonio, TX
Harrisburg, PA	Norfolk, VA
Quonset Pt., RI	Burlington, VT
Greer, SC	Green Bay, WI
Knoxville, TN	Charleston, WV
Amarillo, TX	Huntsville, AL
Corpus Christi, TX	Abilene, TX
Midland, TX	Tucson, AZ
Chantilly, VA	Oakland, CA
Roanoke, VA	Sacramento, CA
Tacoma, WA	Colorado Springs, CO
Milwaukee, WI	Ft. Lauderdale, FL
Birmingham, AL	Pensacola, FL
Montgomery, AL	W. Palm Beach, FL
Phoenix, AZ	Savannah, GA
Monterey, CA	Des Moines, IA
Palm Springs, CA	Moline, IL
Santa Ana, CA	Springfield, IL
Daytona Beach, FL	Indianapolis, IN
Cincinnati, KY	Tulsa, OK
Baton Rouge, LA	Erie, PA
Shreveport, LA	San Juan, PR
Flint, MI	Columbia, SC
Lansing, MI	Chattanooga, TN
Jackson, MS	Nashville, TN
Fayetteville, NC	Beaumont, TX
Lincoln, NE	Lubbock, TX
Alburquerque, NM	Salt Lake City, UT
Buffalo, NY	Richmond, VA
Rome, NY	Spokane, WA
Akron Canton, OH	Madison, WI

NAR 1-2.2.7 CHARTING

This recommendation is adopted. Each ARSA will be depicted on aeronautical charts in a manner similar to the way Austin, TX, and Columbus, OH, locations are depicted.

NAR 1-2.2.8 EDUCATION

This recommendation is adopted to the extent set forth in Notice 84-22.

The Amendment

After consideration of the comments received, the FAA is adopting, with the exception of two editorial changes, the amendments to Parts 71, 91, 103, and 105 as they

were proposed in Notice 84-22. The definition of an ARSA in new Section 71.14 has been revised for consistency with the definitions of other types of controlled airspace in Part 71. The revision has no effect on the operating rules for an ARSA or the extent of airspace involved. A second editorial revision was made to new Section 91.88. The phrase "or heliport" was deleted from the proposed section as unnecessary, because the term "airport" as defined in FAR Part 1, Section 1.1, includes heliports.

These amendments establish a new type of airspace assignment and prescribe operating rules for aircraft, ultralight vehicles, and parachute jump operations in that airspace.

Specifically, aircraft arriving at any airport in an ARSA, and overflying aircraft, prior to entering the ARSA must: (1) Establish two-way radio communications with the ATC facility having jurisdiction over the area; and, (2) while in the ARSA, maintain two-way radio communication with that ATC facility. For aircraft departing from the primary airport within the ARSA, two-way radio communications must be maintained with the ATC facility having jurisdiction over the area. For aircraft departing a satellite airport or heliport within the ARSA, as soon as practicable after takeoff, two-way radio communications must be established and thereafter maintained, while operating within the ARSA, with the ATC facility having jurisdiction over the area.

All aircraft operating within an ARSA are required to comply with all ATC clearances and instructions and any FAA arrival or departure traffic pattern for the airport of intended operation. However, the proposed rule permits ATC to authorize appropriate deviations to any of the operating requirements of the proposed rules when safety considerations justify the deviation or more efficient utilization of the airspace can be attained. Ultralight vehicle operations and parachute jumps in an ARSA may only be conducted under the terms of an ATC authorization.

Economic Impact

This action defines an ARSA and establishes air traffic rules for operation within the ARSA. Specific designations of individual ARSA's will be proposed in separate NPRM's. This amendment has no economic consequences. Rather, it is the airspace proposals which would implement this rule at specific sites that would have the economic impact, if any, at those sites. The FAA will provide a Regulatory Evaluation (an analysis of the economic impact), a Trade Impact Analysis (an analysis of the impact of the rule on foreign trade), and a Regulatory Flexibility Determination (whether a proposal has a significant economic impact on a substantial number of small entities) when an ARSA is proposed at specific sites.

Accordingly, the FAA has determined that: (1) The amendment does not involve a major rule under Executive Order 12291; (2) the amendment is not significant nor does it require a full Regulatory Evaluation under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and (3) it is certified that under the criteria of the Regulatory Flexibility Act that the amendment will not have a significant economic impact on a substantial number of small entities. In addition, this amendment, if adopted, would have little or no impact on trade opportunities for U.S. firms doing business overseas, or for foreign firms doing business in the U.S.

This rule is published less than 30 days prior to its effective date of March 14. By separate rulemaking published this date, FAA has established ARSA's at Austin, TX; Columbus, OH; and Baltimore, MD, to take effect on March 14. March 14 is the next publication for enroute low altitude navigation charts published by the National Ocean Survey. Pilots rely on these charts for flight information, and FAA considers it a matter of flight safety that the implementation date for each ARSA coincide with the publication date of the air navigation chart depicting the ARSA. The permanent Austin and Columbus ARSA's and the Baltimore ARSA cannot be established unless this rule, which promulgates the definition and operating rules for ARSA's is in effect. If these ARSA's are not established on March 14, the next subsequent chart publication date, and the next

date on which the three ARSA's could become effective, is in September. FAA considers the establishment of the ARSA at Baltimore Airport to be of immediate importance and cannot accept a 6-month delay in implementation of this ARSA. Furthermore, controller training, revised coordination procedures among adjacent ATC facilities, and equipment display modifications have been undertaken at all these locations in preparation for the March 14 effective date. A 6-month delay in implementation would have a disruptive effect on the ATC facilities involved. For these reasons, and in consideration of the fact that the final rule is substantially identical to the proposal, the FAA finds that good cause exists for making the rule effective less than 30 days after publication.

The Rule

For the reasons set out in the preamble, Chapter I of Title 14 of the Code of Federal Regulations is amended effective March 14, 1985.

(Secs. 307 and 313(a), Federal Aviation Act of 1958, as amended (49 U.S.C. 1348, 1354(a)); 49 U.S.C. 106(g) (Revised, Pub. L. 97-449, January 12, 1983); 14 CFR 11.45; and 14 CFR 11.65.)

10312ch.1

Part 103—Ultralight Vehicles

Subpart A—General

§ 103.1 Applicability.

This Part prescribes rules governing the operation of ultralight vehicles in the United States. For the purposes of this Part, an ultralight vehicle is a vehicle that:

(a) Is used or intended to be used for manned operation in the air by a single occupant;

(b) Is used or intended to be used for recreation or sport purposes only;

(c) Does not have any U.S. or foreign airworthiness certificate; and,

(d) If unpowered, weighs less than 155 pounds; or

(e) If powered:

(1) Weighs less than 254 pounds empty weight, excluding floats and safety devices which are intended for deployment in a potentially catastrophic situation;

(2) Has a fuel capacity not exceeding 5 U.S. gallons;

(3) Is not capable of more than 55 knots calibrated airspeed at full power in level flight; and

(4) Has a power-off stall speed which does not exceed 24 knots calibrated airspeed.

§ 103.3 Inspection requirements.

(a) Any person operating an ultralight vehicle under this Part shall, upon request, allow the Administrator, or his designee, to inspect the vehicle to determine the applicability of this Part.

(b) The pilot or operator of an ultralight vehicle must, upon request of the Administrator, furnish satisfactory evidence that the vehicle is subject only to the provisions of this Part.

§ 103.5 Waivers.

No person may conduct operations that require a deviation from this Part except under a written waiver issued by the Administrator.

§ 103.7 Certification and registration.

(a) Notwithstanding any other section pertaining to certification of aircraft or their parts or equipment, ultralight vehicles and their component parts and equipment are not required to meet the airworthiness certification standards specified for aircraft or to have certificates of airworthiness.

(b) Notwithstanding any other section pertaining to airman certification, operators of ultralight vehicles are not required to meet any aeronautical knowledge, age, or experience requirements to operate those vehicles or to have airman or medical certificates.

(c) Notwithstanding any other section pertaining to registration and marking of aircraft, ultralight vehicles are not required to be registered or to bear markings of any type.

Subpart B—Operating Rules

§ 103.9 Hazardous operations.

(a) No person may operate any ultralight vehicle in a manner that creates a hazard to other persons or property.

(b) No person may allow an object to be dropped from an ultralight vehicle if such action creates a hazard to other persons or property.

§ 103.11 Daylight operations.

(a) No person may operate an ultralight vehicle except between the hours of sunrise and sunset.

(b) Notwithstanding paragraph (a) of this section, ultralight vehicles may be operated during the twilight periods 30 minutes before official

sunrise and 30 minutes after official sunset or, in Alaska, during the period of civil twilight as defined in the Air Almanac, if:

(1) The vehicle is equipped with an operating anticollision light visible for at least 3 statute miles; and

(2) All operations are conducted in uncontrolled airspace.

§ 103.13 Operation near aircraft; Right-of-way rules.

(a) Each person operating an ultralight vehicle shall maintain vigilance so as to see and avoid aircraft and shall yield the right-of-way to all aircraft.

(b) No person may operate an ultralight vehicle in a manner that creates a collision hazard with respect to any aircraft.

(c) Powered ultralights shall yield the right-of-way to unpowered ultralights.

§ 103.15 Operations over congested areas.

No person may operate an ultralight vehicle over any congested area of a city, town, or settlement, or over any open air assembly of persons.

§ 103.17 Operations in certain airspace.

No person may operate an ultralight vehicle within an airport traffic area, control zone, terminal control area, or positive control area unless that person has prior authorization from the air traffic control facility having jurisdiction over that airspace.

§ 103.19 Operations in prohibited or restricted areas.

[No person may operate an ultralight vehicle within an airport traffic area, control zone, airport radar service area, terminal control area, or positive control area unless that person has prior authorization from the air traffic control facility having jurisdiction over that airspace.]

§ 103.20 Flight restrictions in the proximity of certain areas designated by Notice to Airmen.

No person may operate an ultralight vehicle in areas designated in a Notice to Airmen under § 91.102 or § 91.104 of this chapter, unless authorized by ATC.

§ 103.21 Visual reference with the surface.

No person may operate an ultralight vehicle except by visual reference with the surface.

§ 103.23 Flight visibility and cloud clearance requirements.

No person may operate an ultralight vehicle when the flight visibility or distance from clouds is less than that in the following table, as appropriate:

4U.S. GOVERNMENT PRINTING OFFICE: 1985—461-824/20025

UNITED STATES
GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

Official Business

Postage and Fees Paid
Federal Aviation
Administration
DOT 515

103/3/ch.2

TD4.6:103/3/ch.2

FEDERAL AVIATION REGULATIONS

Department of Transportation
Federal Aviation Administration—Washington, D.C.

CHANGE 2

EFF. FEBRUARY 5, 1985
DECEMBER 21, 1984

Part 103—Ultralight Vehicles

This Change incorporates the following amendments in Federal Aviation Regulation Part 103:

Amdt. 103-1, Ultralight Vehicles; Operating Requirements, effective February 5, 1985

Special Federal Aviation Regulation 45-1, Airport Radar Service Areas, effective December 21, 1984 through June 20, 1985

The effective date of the new material, which is marked by black brackets, is carried at the bottom of each page. Preamble pages and rearranged pages having no new material carry the Change number only.

NEWARK PUBLIC LIBRARY

APR 16 1986

U. S. GOVT. PUBS.
DEPOSITORY 326

Page Control Chart

Remove Pages	Dated	Insert Pages	Dated
I	12/22/83; 1/19/84	I	2/5/85
P-11	—	P-11	—
		P-12 thru P-14	Ch. 2
1 and 2	—	1	—
		2	2/5/85
21 and 22	12/22/83; 1/19/84	21 and 22	Ch. 2
		23 and 24	12/21/84

Suggest filing this transmittal at the back of the FAR. It will provide a method for determining that all Changes have been received as listed in the current edition of AC 00-44, Status of Federal Aviation Regulations, and a check for determining if the FAR contains the proper pages.

TD4.6:

Part 103—Ultralight Vehicles

Contents

Section		Page
Preambles		P-1
	Subpart A—General	
103.1	Applicability	1
103.3	Inspection requirements	1
103.5	Waivers	1
103.7	Certification and registration	1
	Subpart B—Operating Rules	
103.9	Hazardous operations	1
103.11	Daylight operations	1
103.13	Operation near aircraft, right-of-way rules	2
103.15	Operations over congested areas	2
103.17	Operations in certain airspace	2
103.19	Operations in prohibited or restricted areas	2
[103.20	Flight restrictions in the proximity of certain areas designated by Notice to Airmen]	2
103.21	Visual reference to the surface	2
103.23	Flight visibility and cloud clearance requirements	2
Special Federal Aviation Regulation 45—Model B Airspace (Airport Radar Service Area) (*Preamble*)		5
Special Federal Aviation Regulation 45 (*Rule*)		23

cloud clearance requirements serve as a practical buffer to reduce the possibility of having an aircraft exit the clouds on an unalterable collision course. Operating too close to clouds does, in effect, cause a blind side in the aviator's vision. Operation in and near clouds severely restricts the ultralight operator's ability to see and avoid, an ability that is paramount in allowing ultralight operations to take place.

In maintaining a safe distance from clouds, the FAA has concluded that ultralight operators can reasonably approximate, when operations are being conducted, the required distance from clouds. Experience with other segments of aviation has shown that it is readily apparent that, when operations approach an unsafe distance from clouds and adherence to the prescribed minimum distance determination becomes relatively easy. Therefore, retention of the flight visibility and clouds clearance requirements, as proposed, is essential for maintaining airspace safety.

ADOPTION OF THE AMENDMENT

Accordingly, the Federal Aviation Regulations (14 CFR Chapter I) are amended, effective October 4, 1982, by adding to Subchapter F (14 CFR Chapter I) a new Part 103.

(Secs. 307, 313(a), 601(a), 602 and 603, Federal Aviation Act of 1958 (49 U.S.C. §§ 1348, 1354(a), 1421(a), 1422, and 1423; sec. 6(c), Department of Transportation Act (49 U.S.C. § 1655(c)).

NOTE: The FAA has determined that this regulation is not a major rule under Executive Order 12291. Because the rule will regulate a new user segment and because of substantial public interest, it has been determined that it is a significant rule pursuant to the Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). The total projected costs of this rule may be found in a copy of the regulatory evaluation contained in the public docket. A copy of that evaluation may be obtained by contacting the person identified above under the caption "FOR FURTHER INFORMATION CONTACT." It is certified under the criteria of the Regulatory Flexibility Act that this rule will not have a significant economic impact on a substantial number of small entities. There are very few small entities involved in ultralight vehicle activities and the majority of those will be unaffected by the implementation of this rule.

Amendment 103-1
Ultralight Vehicles; Operating Requirements

Adopted: January 14, 1985 **Effective: February 5, 1985**

(Published in 50 FR 4968, February 5, 1985)

SUMMARY: Federal Aviation Regulations (FAR) currently require ultralight vehicle operators to remain clear of prohibited and restricted areas, unless otherwise authorized by the using or controlling agency, but do not restrict ultralight operations in the vicinity of space flight operations or the proximity of the President. This final rule amends ultralight operating regulations to require that ultralight vehicle operators also remain clear of areas designated for space flight operations and areas in proximity to Presidential and certain other parties.

Comments concerning provisions of this regulation must be submitted by March 5, 1985.

ADDRESSES: Send comments on the rule in duplicate to the Federal Aviation Administration, Office of the Chief Counsel, Attn: Rules Docket (AGC-204), Docket No. 24454, 800 Independence Avenue, S.W., Washington, D.C. 20591. Comments may be examined in the Rules Docket, weekdays, except Federal holidays, between 8:30 a.m. and 5:00 p.m.

FOR FURTHER INFORMATION CONTACT: Mr. Bill Davis, Office of Air Traffic Operations, Federal Aviation Administration, 800 Independence Avenue, S.W., Washington, D.C. 20591; telephone (202) 426-8783.

SUPPLEMENTAL INFORMATION:

COMMENTS INVITED

Interested persons are invited to participate in this regulatory action by submitting such written data, views, or arguments, as they may desire. Comments that provide the factual basis supporting the views and suggestions presented are particularly helpful in developing reasoned regulatory decisions. Communications should identify the regulatory docket number and be submitted in duplicate to the above specified address. All communications received on or before the closing date for comments will be considered by the Administrator. Commenters who wish the FAA to acknowledge receipt of their comments must submit with those comments a self-addressed, stamped postcard on which the following statement is written: "Comments to Docket No. 24454." The postcard will be date/time stamped and returned to the commenter. The provisions in this rule may be changed in the light of comments received. All comments submitted will be available, both before and after closing date for the comments, in the Rules Docket for examination by interested persons. A report summarizing substantive public contact with FAA personnel concerned with this rulemaking will be filed in the docket.

Availability of Document

Any person may obtain a copy of this document by submitting a request to the Federal Aviation Administration, Office of Public Affairs, Attn: Public Information Center, APA-430, 800 Independence Avenue, S.W., Washington, D.C. 20591, or by calling (202) 426-8058. Communications must identify the docket number.

BACKGROUND

On July 27, 1981, the FAA published Notice of Proposed Rulemaking No. 81-6 (46 FR 38472) and included in that proposal a number of operational limitations for ultralight vehicles. More than 2,500 persons and organizations submitted comments to that proposal. After consideration of those comments, on September 2, 1982, the FAA

promulgated FAR Part 103 defining the operating requirements for ultralight vehicles (47 FR 38770). Those regulations became effective on October 4, 1982, and remain in effect today.

NEED FOR AMENDMENT

In recent months, there have been intrusions by aircraft into areas designated for space flight operations. Such intrusions have resulted in the disruption of launch and recovery operations and an increased concern for the safety of space flight support operations.

Additionally, there have been intrusions by aircraft into security areas designated for the President and other parties. Some of these intrusions have resulted in the activation of extensive security measures for protection of the President and the Presidential party and have raised serious concerns for the welfare of those being protected. While most of these incidents have not involved ultralight vehicles, ultralights present the same risks as certificated aircraft for the purposes underlying these protected areas.

In responding to the concerns raised by these intrusions, the FAA has reviewed the scope of the regulations prohibiting unauthorized aeronautical operations, including ultralight vehicles, within the designated areas. FAR Part 91, § 91.102 authorizes flight limitations in the proximity of space flight operations. Section 91.104 authorizes flight restrictions in the proximity of the President, Vice-President, and other public figures. FAR Part 103 prescribes rules governing the operation of ultralight vehicles. Sections 103.17 and 103.19 prohibit operation of an ultralight in various categories of controlled and special use airspace, including restricted areas and prohibited areas. However, neither Part 91 nor Part 103 expressly prohibits the operation of ultralight vehicles in areas designated for space flight operations, under § 91.102, or for Presidential security, under § 91.104.

In promulgating Part 103, it was the FAA's intent that ultralight operators comply with the same restrictions that are applicable to conventional aircraft operations in general under §§ 91.102 and 91.104. The preamble to Part 103 published in the *Federal Register* (47 FR 38775) cited both "Presidential security" and "the launch and recovery of rocket-powered vehicles" as grounds for the exclusion of ultralights from certain airspace. Neither Part 91 nor Part 103, as issued, contains language which technically prohibits ultralights from entering areas designated under §§ 91.102 or 91.104.

The FAA is concerned that continued absence of specific reference to §§ 91.102 and 91.104 flight restrictions in Part 103 may be construed by ultralight operators as permission to operate through these areas. Both the ultralight operator and the persons or operations for which the area is designated could be jeopardized by such flights, and the FAA remains convinced that any unauthorized ultralight vehicle operation in areas designated by §§ 91.102 or 91.104 results in an unsafe condition. In this respect, ultralight vehicles present the same potential threat as aircraft operated under Part 91, and the FAA believes that the provisions of §§ 91.102 and 91.104 should apply equally to both.

Because this amendment will serve to present disruption of space flight operations and infringement on secure areas for Presidential and other parties in the immediate future, I find that notice and public procedure hereon are not in the public interest and that good cause exists for making the regulation effective immediately.

Because this amendment imposes no additional burden on ultralight vehicle operators, this document involves a rulemaking action which is not a major rule under Executive Order 12291 and is not a significant rule under Department of Transportation Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). The economic impact of this regulation is so minimal that a full regulatory evaluation is not necessary.

ADOPTION OF THE AMENDMENT

Accordingly, Part 103 of the Federal Aviation Regulations (14 CFR Part 103, Subpart B—Operating Rules) is amended by adding § 103.20.

(Secs. 307 and 313(a), Federal Aviation Act of 1958, as amended (49 U.S.C. §§ 1348, 1354(a)); 49 U.S.C.§ 106(g) (Revised, Pub. L. 97-449, January 12, 1983); and 14 CFR 11.45.)

Part 103—Ultralight Vehicles

Subpart A—General

§ 103.1 Applicability.

This Part prescribes rules governing the operation of ultralight vehicles in the United States. For the purposes of this Part, an ultralight vehicle is a vehicle that:

(a) Is used or intended to be used for manned operation in the air by a single occupant;

(b) Is used or intended to be used for recreation or sport purposes only;

(c) Does not have any U.S. or foreign airworthiness certificate; and,

(d) If unpowered, weighs less than 155 pounds; or

(e) If powered:

(1) Weighs less than 254 pounds empty weight, excluding floats and safety devices which are intended for deployment in a potentially catastrophic situation;

(2) Has a fuel capacity not exceeding 5 U.S. gallons;

(3) Is not capable of more than 55 knots calibrated airspeed at full power in level flight; and

(4) Has a power-off stall speed which does not exceed 24 knots calibrated airspeed.

§ 103.3 Inspection requirements.

(a) Any person operating an ultralight vehicle under this Part shall, upon request, allow the Administrator, or his designee, to inspect the vehicle to determine the applicability of this Part.

(b) The pilot or operator of an ultralight vehicle must, upon request of the Administrator, furnish satisfactory evidence that the vehicle is subject only to the provisions of this Part.

§ 103.5 Waivers.

No person may conduct operations that require a deviation from this Part except under a written waiver issued by the Administrator.

§ 103.7 Certification and registration.

(a) Notwithstanding any other section pertaining to certification of aircraft or their parts or equipment, ultralight vehicles and their component parts and equipment are not required to meet the airworthiness certification standards specified for aircraft or to have certificates of airworthiness.

(b) Notwithstanding any other section pertaining to airman certification, operators of ultralight vehicles are not required to meet any aeronautical knowledge, age, or experience requirements to operate those vehicles or to have airman or medical certificates.

(c) Notwithstanding any other section pertaining to registration and marking of aircraft, ultralight vehicles are not required to be registered or to bear markings of any type.

Subpart B—Operating Rules

§ 103.9 Hazardous operations.

(a) No person may operate any ultralight vehicle in a manner that creates a hazard to other persons or property.

(b) No person may allow an object to be dropped from an ultralight vehicle if such action creates a hazard to other persons or property.

§ 103.11 Daylight operations.

(a) No person may operate an ultralight vehicle except between the hours of sunrise and sunset.

(b) Notwithstanding paragraph (a) of this section, ultralight vehicles may be operated during the twilight periods 30 minutes before official

sunrise and 30 minutes after official sunset or, in Alaska, during the period of civil twilight as defined in the Air Almanac, if:

(1) The vehicle is equipped with an operating anticollision light visible for at least 3 statute miles; and

(2) All operations are conducted in uncontrolled airspace.

§ 103.13 Operation near aircraft; Right-of-way rules.

(a) Each person operating an ultralight vehicle shall maintain vigilance so as to see and avoid aircraft and shall yield the right-of-way to all aircraft.

(b) No person may operate an ultralight vehicle in a manner that creates a collision hazard with respect to any aircraft.

(c) Powered ultralights shall yield the right-of-way to unpowered ultralights.

§ 103.15 Operations over congested areas.

No person may operate an ultralight vehicle over any congested area of a city, town, or settlement, or over any open air assembly of persons.

§ 103.17 Operations in certain airspace.

No person may operate an ultralight vehicle within an airport traffic area, control zone, terminal control area, or positive control area unless that person has prior authorization from the air traffic control facility having jurisdiction over that airspace.

§ 103.19 Operations in prohibited or restricted areas.

No person may operate an ultralight vehicle in prohibited or restricted areas unless that person has permission from the using or controlling agency, as appropriate.

[§ 103.20 Flight restrictions in the proximity of certain areas designated by Notice to Airmen.

[No person may operate an ultralight vehicle in areas designated in a Notice to Airmen under § 91.102 or § 91.104 of this chapter, unless authorized by ATC.]

§ 103.21 Visual reference with the surface.

No person may operate an ultralight vehicle except by visual reference with the surface.

§ 103.23 Flight visibility and cloud clearance requirements.

No person may operate an ultralight vehicle when the flight visibility or distance from clouds is less than that in the following table, as appropriate:

U.S. GOVERNMENT PRINTING OFFICE: 1985—461-497/20013

Special Federal Aviation Regulation 45-1

Airport Radar Service Areas

Adopted: November 20, 1984 **Effective: December 21, 1984 thru June 20, 1985**

(Published in 49 FR 47176, November 30, 1982)

SUMMARY: This action amends Special Federal Aviation Regulations (SFAR) No. 45 to retain the Airport Radar Service Areas (ARSA) at Columbus, OH, and Austin, TX, beyond their respective termination date of December 22, 1984, and January 19, 1985. As a result of a successful operational confirmation of the ARSA concept at these sites, the FAA is taking regulatory action to propose that existing Terminal Radar Service Areas (TRSA) be replaced by ARSA's. An extension of SFAR No. 45 is necessary to continue the Columbus and Austin ARSA's during the rulemaking process, and to preclude the confusion to pilots that would result from the temporary reversion to TRSA's at these locations. No other changes are being made to the provisions of SFAR No. 45.

Comments must be received before December 15, 1984.

ADDRESSES: Comments may be mailed or delivered in duplicate to: Federal Aviation Administration, Office of Chief Counsel, Attention: Rules Docket (AGC-204), Docket No. 23708, 800 Independence Avenue, S.W., Washington, D.C. 20591. Comments may be examined in the Rules Docket weekdays, except Federal holidays, between 8:30 a.m. and 5:00 p.m.

FOR FURTHER INFORMATION CONTACT: Mr. Bill Davis, Airspace-Rules and Aeronautical Information Division, ATO-230, Federal Aviation Administration, 800 Independence Avenue, S.W., Washington, D.C. 20591, telephone (202) 426-8783.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in this operational confirmation by submitting such written data, views, or arguments as they may desire. Comments that provide the factual basis supporting the views and suggestions presented are particularly helpful in developing reasoned regulatory decisions. Communications should identify the regulatory docket number and be submitted in duplicate to the address listed above. Commenters wishing the FAA to acknowledge receipt of their comments must submit with those comments a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. 23708." The postcard will be date/time stamped and returned to the commenter. All communications received between the specified opening and closing dates for comments will be considered by the Administrator before taking action on any further rulemaking. All comments submitted will be available for examination in the Rules Docket both before and after the closing date for comments. A report summarizing each substantive public contact with FAA personnel concerned with this rulemaking will be filed in the docket.

Background

On April 22, 1982, the National Airspace Review (NAR) plan was published in the *Federal Register* (47 FR 17448). The plan encompasses a review of airspace use and the procedural aspects of the air traffic control (ATC) system. The FAA published NAR Recommendation 1-2.2.1, "Replace Terminal Radar Service Areas (TRSA) with Model B Airspace and Service (Airport Radar Service Areas)," in Notice 83-9 (July 28, 1983; 48 FR 34286) proposing the establishment of Airport Radar Service Areas (ARSA) at Columbus, OH, and Austin, TX. These locations were designated ARSA's by SFAR No. 45 (October 28, 1983; 48 FR 50038) in order to provide an operational confirmation of the ARSA concept for potential application on a national basis.

NEED FOR AMENDMENT TO SFAR NO. 45

The FAA has determined that the confirmation of the ARSA conducted under SFAR No. 45 indicates the benefits of national applicability. The FAA has, therefore, proposed amendments to the Federal Aviation Regulations (FAR) which would establish the mechanics for designating ARSA locations and rules governing operations within the airspace of an ARSA. These proposed amendments are in the form of a Notice of Proposed Rulemaking (NPRM) and are being issued coincidental with this action. If, after considering public comments on the proposed amendments, the FAA elects not to adopt the amendments, the FAA will take action to revoke the Columbus and Austin ARSA's. Alternatively, if the proposed amendments are adopted, the SFAR will be superseded by a final rule. The FAA believes that the SFAR should be continued for a sufficient time to complete the rulemaking process on the general amendments. Extending the SFAR to cover the period in which the national ARSA program is being proposed and considered will provide continuity of ATC services at the two current ARSA locations and continuity of the rules for operating in the airspace around these airports, and will prevent confusion on the part of pilots using the airports.

The SFAR establishing the temporary Austin and Columbus ARSA's will expire on December 21, 1984, and January 18, 1985, respectively. Because these areas were established after full public notice and comment and are being extended for no more than 6 months, and because a temporary expiration of ARSA procedures at these locations could adversely affect air safety, I find that notice and public procedure are contrary to the public interest, and that good cause exists for making the extension effective in less than 30 days.

Since this is only a 6-month extension of an existing temporary regulation affecting only two locations, the FAA has determined that this document involves a regulation which: (1) Is not a major rule under Executive Order 12291; and (2) is not a significant rule under Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). Also, for the same reason stated above, I certify that the rule will not have a significant economic impact on a substantial number of small entities. The total projected impact of this regulation may be found in a copy of the final regulatory evaluation contained in the public docket. A copy of that evaluation may be obtained by contacting the person identified above under the caption, "For Further Information Contact."

Accordingly, SFAR No. 45–1 supersedes SFAR No. 45, is effective December 21, 1984, through January 20, 1985, and is added to 14 CFR Parts 71, 91, 103, and 105.

(Secs. 307 and 313(a), Federal Aviation Act of 1958, as amended (49 U.S.C. 1348, 1354(a)); 49 U.S.C. 106(g) (Revised, Pub. L. 97-449, January 12, 1983); 14 CFR 11.45; and 14 CFR 11.65.)

[Special Federal Aviation Regulation 45-1

[Contrary provisions of the Federal Aviation Regulations notwithstanding,

[1. The Robert Mueller Municipal Airport, Austin, TX, and the Port Columbus International Airport, Columbus, OH, are designated Airport Radar Service Areas (ARSA) airports at which, unless otherwise provided for in a Notice to Airmen issued by the ARSA facility, radar services will be provided continuously.

[(2) For purposes of this Special Federal Aviation Regulation:

[(a) The Austin, TX, ARSA is that airspace extending upward from the surface to and including 4,600 feet MSL within a 5 nautical mile radius of the Robert Mueller Municipal Airport and that airspace extending upward from 2,000 feet MSL to 4,600 feet MSL within a 10 nautical mile radius of Robert Mueller Municipal Airport from the 027° true bearing from the airport clockwise to the 207° true bearing from the airport and that airspace extending upward from 2,300 feet MSL to 4,600 feet MSL within a 10 nautical mile radius of the airport from the 207° true bearing from the airport clockwise to the 027° true bearing from the airport.

[(b) The Columbus, OH, ARSA is that airspace extending upward from the surface to and including 4,800 feet MSL within a 5 nautical mile radius of the Port Columbus International Airport and that airspace extending upward from 2,500 feet MSL to 4,800 feet MSL within a 10 nautical mile radius of Port Columbus International Airport from the 008° true bearing from the airport clockwise to the 127° true bearing from the airport and that airspace extending upward from 2,200 feet MSL to 4,800 feet MSL within a 10 nautical mile radius of the airport from the 127° true bearing from the airport clockwise to the 008° true bearing from the airport.

[(c) The primary airport is the airport for which the ARSA is designated; a satellite airport is any other airport, heliport, helipad, etc., within that ARSA.

[3. Unless otherwise authorized or required by ATC—

[(a) Arrivals and Overflights—no person may operate an aircraft in an ARSA unless two-way radio communication is established with ATC prior to entering that ARSA and is thereafter maintained with ATC while within that ARSA;

[(b) Departures—no person may operate an aircraft within an ARSA unless two-way radio communication is maintained with ATC while within that ARSA, except that for aircraft departing a satellite airport, two-way radio communication is established as soon as practicable and thereafter maintained with ATC while within that ARSA;

[(c) ATC Instructions and Clearances—except in an emergency, no person may, while within an ARSA, operate an aircraft contrary to an ATC clearance or instruction;

[(d) Traffic Patterns—no person may takeoff or land an aircraft within an ARSA except in compliance with FAA arrival and departure traffic patterns; and

[(e) Ultralight Vehicle and Parachute Jump Operations—no person may operate an ultralight vehicle within, or make a parachute jump within or into, an ARSA except under the terms of an ATC authorization issued by the ATC facility having jurisdiction over that ARSA.

[4. In addition to the required preflight actions of FAR § 91.5, each pilot in command shall review NOTAM's pertaining to flight within an ARSA prior to conducting flight in an ARSA.

[This SFAR terminates at 12:01 a.m. local time on June 21, 1985, unless sooner superseded or rescinded.]

103/3/ch.1

FEDERAL AVIATION REGULATIONS

Department of Transportation
Federal Aviation Administration—Washington, D.C.

CHANGE 1

EFF. DECEMBER 22, 1983 thru DECEMBER 21, 1984 for Austin, TX, & JANUARY 19, 1984 thru JANUARY 18, 1985 for Columbus, OH.

Part 103—Ultralight Vehicles

The Special Federal Aviation Regulations (SFARs) are now being included in the FAA publication of their related Parts.

Accordingly, this Change incorporates SFAR 45, Model B Airspace (Airport Radar Service Area), effective December 22, 1983, thru December 21, 1984, for Austin, TX, and January 19, 1984, thru January 18, 1985, for Columbus, OH, in Federal Aviation Regulation Part 103.

The effective date of the new material, which is marked by black brackets, is carried at the bottom of each page. The preamble pages to SFAR 45 carry the Change number only.

Also included in this Change are corrected pages P–9 and 3. This is to correct printing errors when Part 103 was printed.

Page Control Chart

Remove Pages	Dated	Insert Pages	Dated
I	—	I	12/22/83 & 1/19/82
P–9	—	P–9	Ch. 1 (Corrected)
3	—	3	Ch. 1 (Corrected)
		5 thru 8	Ch. 1
		9	12/22/83 & 1/19/84

NEWARK PUBLIC LIBRARY

FEB 2 1984

U. S. GOVT. PUBS.
DEPOSITORY 376

Suggest filing this transmittal at the back of the FAR. It will provide a method for determining that all Changes have been received as listed in the current edition of AC 00–44, Status of Federal Aviation Regulations, and a check for determining if the FAR contains the proper pages.

TD 4.6:

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402

Part 103—Ultralight Vehicles

Contents

Section		Page
Preambles		P-1
	Subpart A—General	
103.1	Applicability	1
103.3	Inspection requirements	1
103.5	Waivers	1
103.7	Certification and registration	1
	Subpart B—Operating Rules	
103.9	Hazardous operations	1
103.11	Daylight operations	1
103.13	Operation near aircraft, right-of-way rules	2
103.15	Operations over congested areas	2
103.17	Operations in certain airspace	2
103.19	Operations in prohibited or restricted areas	2
103.21	Visual reference to the surface	2
103.23	Flight visibility and cloud clearance requirements	2
[Special Federal Aviation Regulation 45—Model B Airspace (Airport Radar Service Area) (*Preamble*)		5
[Special Federal Aviation Regulation 45 (*Rule*)]		9

restricted category aircraft based on catastrophic incidents which have occurred in the past. The potential for such an incident makes the general issuance of the suggested authorization unacceptable. The FAA believes that concentrations of the general public must be protected from the possible dangers inherent in the operations of vehicles of uncertificated, possibly unproven designs. In specific limited instances, with appropriate operational limitations, ultralight operations may be approved over congested areas, through the waiver provisions of § 103.5.

Section 103.17 Operations in certain airspace (proposed § 101.45).

The NPRM proposed to require the ultralight operator to obtain authorization prior to operating within airport traffic areas, control zones, terminal control areas, and positive controlled airspace.

Operators of aircraft commented that the speed and visibility of ultralights are incompatible with other operations and that they should not be allowed at all in those areas. Some even suggest that a maximum operating altitude, such as 3,000 feet AGL, be imposed on all ultralight operations.

The FAA shares the concern expressed by pilots who are wary of the ability to intermix faster aircraft safely with the relatively slow ultralights; but, experience has shown that aircraft of significantly different performance characteristics can be accommodated when operations are conducted in accordance with specific authorizations. There is considerable precedence in the form of glider operations, hot air ballooning, and parachuting being conducted while aircraft safely transit the area. Historically, the greatest danger comes not from performance variables, but from operations unknown to the pilot or controller. The requirement to gain authorization before entering these airspace areas enhances the safety to all airspace users. The FAA has concluded that ultralight vehicles in compliance with the provisions of § 103.17 will be able to operate safely in those airspace areas.

Although the subject was not addressed in the NPRM, some commenters voice concern about ultralight operations conducted at or near uncontrolled airports, with many persons noting a need to develop standard operating procedures. The FAA agrees with the need to establish a compatible method of operation at uncontrolled airports but believes that the variables associated with each locality (terrain, runway configuration, and the physical properties of the airport) combine in such a manner to preclude a generalized nationwide regulatory approach. The FAA has concluded that such operations could be handled much more efficiently by airport managers developing local procedures in concert with the ultralight community. In this way the available facilities can be used to the full extent while operational safety is maintained. Additionally, the interaction of the ultralight operators and the airport managers will serve as a basis for mutual understanding of the role this growing segment of aviation will play in the years ahead. The FAA encourages and supports efforts to reach such agreements and has been working with user groups in the development of guidelines for ultralight operations at uncontrolled airports.

Section 103.19 Operations in prohibited or restricted areas.

In the NPRM, requirements for operations of ultralights were included under the provisions of § 101.5.

In the final rule, the requirement for ultralight operators to obtain authorization prior to operating in prohibited or restricted areas is retained and restated under § 103.19.

Prohibited areas have been developed to provide for the safety and security of operations being conducted and to segregate activities considered to be hazardous to nonparticipating aircraft. Such operations in these areas include military and presidential security, flight training and testing, experimental weapons testing, and the launch and recovery of rocket-powered vehicles.

Many commenters recognize the need to limit access to these operating areas and accept the requirement to obtain permission prior to operating in these areas. A few

commenters believe that this restriction should not apply to them and that ultralight vehicles should be allowed to operate at their own risk.

The FAA has determined that allowing any aeronautical activity to enter prohibited or restricted areas without prior authorization would derogate the purpose for which these areas were established. Avoidance of such areas by ultralight operators is not viewed as imposing a significant burden on ultralight operations.

Section 103.21 Visual reference to the surface (proposed § 101.51).

NPRM No. 81-6 proposed that ultralight operators be required to maintain visual reference to the surface during all flight operations. This would ensure that the operator of an ultralight would have the opportunity to descend and land safely at any time without entering obscuring weather phenomena.

Many commenters support the proposal as reasonable and representative of normal ultralight operations. They recognize the possibility of being caught "on top" and the danger, both to themselves and to other airspace users, of trying to descend through a layer of clouds. A few commenters believe that visual reference to the surface is necessary only while climbing or descending and not while in level flight.

The FAA has determined that visual reference with the surface is necessary at all times. Experience with certificated aircraft has shown that many pilots, with fully instrumented aircraft, have been caught "on top" and have required assistance from Air Traffic Control to descend safely. Flying "on top" or between cloud layers often presents visual illusions which cannot be verified without instrumentation. The effect of these illusions is to disorient the airman spatially, with a resulting loss of control of the craft. It takes a well-trained and disciplined pilot to ignore what information the human senses are providing and rely on the instrumentation aboard the aircraft.

In the case of ultralights, there is relatively little, if any, instrumentation with which to confirm the flight attitude of the vehicle. Further, if the ultralight operator should get caught "on top," there is no alternative available but to descend unannounced through the clouds. The ultralight operator would be risking not only his own life, but the lives of persons who rely on the safeguards inherent in certificated aviation.

The FAA has determined that inclusion in the final rule of the requirement to maintain visual reference with the surface is necessary to reduce the potential for collisions and ensure the safe operation of ultralight vehicles.

Section 103.23 Flight visibility and cloud clearance requirements (proposed § 101.53).

The flight visibility and cloud clearance requirements proposed in the NPRM are the same as those under § 91.105, the basic minima for VFR flight operations by fixed-wing aircraft. Since ultralight vehicles will be sharing the same airspace, the FAA has determined it is practical to apply the same operating minima.

Many commenters to this proposal are receptive to the similarity in visibility requirements for all airspace users. Many ultralight operators indicate an appreciation for the inherent safety in being able to see and avoid obstructions and other aeronautical activities. Establishment of specific visibility standards is viewed as enhancing the legitimacy and the utility of ultralight operations.

Some commenters believed that the distance from clouds should be reduced to "clear of clouds." Their basis for such a change centers around the difficulty in determining actual distances from clouds.

Other commenters suggest that hang gliders be allowed to continue their practice of operating near and in the base of clouds. Their rationale is based on the added lift available from being in close proximity to cumulous clouds. Some hang glider operators fear that the restriction on in-cloud operations would eliminate their ability to vie for long-distance and high-altitude records.

The FAA cannot support the operation of ultralights in or near clouds. A specific distance from clouds is required when operating in controlled airspace, primarily due to the presence of aircraft conducting instrument flight operations through the clouds. The

Flight Altitudes	*Minimum Flight Visibility*	*Minimum Distance from Clouds*
1,200 feet or less above the surface regardless of MSL altitude:		
(1) Within controlled airspace—	3 statute miles	500 feet below 1,000 feet above 2,000 feet horizontal.
(2) Outside controlled airspace:	1 statute mile	Clear of clouds.
More than 1,200 feet above the surface but less than 10,000 feet MSL:		
(1) Within controlled airspace—	3 statute miles	500 feet below 1,000 feet above 2,000 feet horizontal.
(2) Outside controlled airspace—	1 statute mile	500 feet below 1,000 feet above 2,000 feet horizontal.
More than 1,200 feet above the surface and at or above 10,000 feet MSL:	5 statute miles	1,000 feet below 1,000 feet above 1 statute mile horizontal.

Special Federal Aviation Regulation 45
Model B Airspace (Airport Radar Service Area)

Adopted: October 3, 1983 **Effective: December 22, 1983 thru December 21, 1984 for Austin, TX, & January 19, 1984, thru January 18, 1985, for Columbus, OH.**

(Published in 48 FR 50038, October 28, 1983)

SUMMARY: This Special Federal Aviation Regulation (SFAR) designates airspace, called an Airport Radar Service Area (ARSA), at Austin, TX, and Columbus, OH, within which each person operating an aircraft must maintain two-way radio communications with air traffic control (ATC). Ultralight vehicle and parachute jump operations in the ARSA are not allowed except under the terms of an ATC authorization. Within these ARSA's, ATC will, in addition to the services and separation currently applied to aircraft operating under instrument flight rules (IFR), resolve any potential conflict between an aircraft operating under IFR and an aircraft operating under visual flight rules (VFR), as well as provide traffic advisory services and arrival sequencing to all aircraft. Pilots are required to comply with ATC clearances and instructions while operating in an ARSA. The purpose of this SFAR is to confirm any national applicability of the recommendation of the National Airspace Review, Terminal Airspace Task Force 1-2.2 that an ARSA program replace the existing Terminal Radar Service Area (TRSA) program. If the operational confirmation demonstrates national applicability and feasibility, appropriate general rulemaking actions will be initiated. During the effective periods of this SFAR, any one or all of its provisions may be suspended temporarily, or revoked by NOTAM for reasons of safety or efficiency.

EFFECTIVE DATE: Austin, TX: December 22, 1983, through December 21, 1984.

EFFECTIVE DATE: Columbus, OH: January 19, 1984, through January 18, 1985.

Comments may only be submitted after December 22, 1983, and must be received on or before May 21, 1984.

ADDRESSES: Comments may be mailed or delivered in duplicate to: Federal Aviation Administration, Office of Chief Counsel, Attn: Rules Docket (AGC-204), Docket No. 23708, 800 Independence Avenue, S.W., Washington, D.C., 20591. Comments may be examined in the Rules Docket weekdays, except Federal holidays, between 8:30 a.m. and 5:00 p.m.

FOR FURTHER INFORMATION CONTACT: Mr. Bill Davis, Airspace-Rules and Aeronautical Information Division, AAT-200, Federal Aviation Administration, 800 Independence Avenue, S.W., Washington, D.C., 20591, telephone (202) 426-8783.

SUPPLEMENTARY INFORMATION:

COMMENTS INVITED

Interested persons are invited to participate in this operational confirmation by submitting such written data, views, or arguments as they may desire. Comments that provide the factual basis supporting the views and suggestions presented are particularly helpful in developing reasoned regulatory decisions. Communications should identify the regulatory docket number and be submitted in duplicate to the address listed above. Commenters wishing the FAA to acknowledge receipt of their comments must submit with those comments a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. 23708." The postcard will be date/time stamped and returned to the commenter. All communications received between the specified opening and closing dates for comments will be considered by the Administrator before taking action on any further rulemaking. Also, this SFAR may be changed in the

light of comments received. All comments submitted will be available for examination in the Rules Docket both before and after the closing date for comments. A report summarizing each substantive public contact with FAA personnel concerned with this rulemaking will be filed in the docket.

BACKGROUND:

On April 22, 1982, the National Airspace Review (NAR) plan was published in the *Federal Register* (47 FR 17448). The plan encompassed a review of airspace use and the procedural aspects of the air traffic control system. The three main objectives of the NAR are:

(1) To develop and incorporate into the air traffic system a more efficient relationship between traffic flows, airspace allocation, and system capacity. This will involve the use of improved air traffic flow management to maximize system capacity and improved airspace management.

(2) To review and eliminate, wherever possible, governmental restraints to system efficiency levied by Federal Aviation Regulations (FAR) and FAA directives—reducing complexity and simplifying the ATC system.

(3) To revalidate ATC services within the National Airspace System with respect to state-of-the-art and future technological improvements.

Organizations participating in the NAR task group were:

Federal Aviation Administration
Department of Defense
Airline Pilots Association
Air Transport Association
National Business Aircraft Association
National Association of State Aviation Officials
Regional Airline Association
Aircraft Owners and Pilots Association
Experimental Aircraft Association
Helicopter Association International

The comprehensive plan contains an administrative structure and detailed task assignments which have resulted in recommendations to the FAA, including the NAR Task Group 1-2.2 recommendations set forth below.

NAR 1-2.2.1 REPLACE TRSAs WITH MODEL B AIRSPACE AND SERVICES

"The Task Group recommends that the current Terminal Radar Service Area (TRSA) program—Airspace and Services—be discontinued. The Task Group further recommends that the concept identified herein as Model B Airspace and Services be implemented as replacement for the TRSA program in accordance with the recommendations to follow."

NAR 1-1.2.2 INNER AREA (CORE) SIZE AND OPERATING REQUIREMENTS

"The Task Group recommends that the physical dimensions of the Model B Airspace Core shall be a 10 NM radius capped at 4,000 feet height above airport (HAA) from the primary airport. This airspace shall extend down to 1200 feet above the surface except that an inner core with a 5 nautical mile radius shall extend down to the surface. Except for aircraft departing from satellite airports/heliports within the Model B Airspace Core, all aircraft shall establish two-way radio communications with ATC prior to entering the airspace. Aircraft departing satellite airports/heliports within the surface area of the Model B Airspace Core shall establish two-way radio communications with ATC as soon as possible. Pilots must comply with approved FAA traffic patterns when departing these airports."

NAR 1-2.2.3 OUTER AREA LIMITS AND OPERATING REQUIREMENTS

"The Task Group recommends that the outer limit of Model B airspace be the same dimensions as the radar/radio coverage within each approach control's

delegated airspace. While strongly encouraged, two-way radio communications is *not* a VFR requirement in the outer limits of Model B airspace and aircraft are not restricted from entering/transitting this airspace."

NAR 1-2.2.4 ATC SERVICES

"Services provided within the Model B Airspace Core shall be as follows: sequencing of arriving aircraft; IFR be provided standard IFR separation; IFR to VFR be provided traffic advisories and conflict resolution so that targets do not merge at the same altitude; and VFR to VFR be provided traffic advisories. Furthermore, aircraft operating outside the Core but within the confines of the Outer Limits will receive Model B services upon establishing two-way radio communications and radar contact."

[NAR 1-2.2.5 Not applicable to this proposal]

NAR 1-2.2.6 AIRSPACE DESIGNATION CRITERIA

"The Task Group recommends that, excluding TCA locations, all airports with an operational airport traffic control tower and currently contained within a TRSA serviced by Level III, IV, or V radar approach control facility shall have Model B airspace designated; unless a study indicates that such designation is inappropriate for a particular location. Any other location serviced by a radar approach control facility may be considered as a candidate location for Model B airspace on the basis of a thorough staff study considering, but *not limited to* the following:

1. Traffic mix, flow, density, and volume.
2. Airport configuration, geographical features and adjacent airspace/facilities.
3. Collision risk assessment.
4. ATC capabilities to provide Model B services to the users at maximum benefit and minimum cost.

All proposed Model B airspace actions shall be subject to regional and headquarters approval. Military operated facilities will process requests through appropriate military and FAA channels. Any Model B location which fails to meet the establishing criteria for its respective location for more than 12 consecutive months, shall be subject to a regulatory review to terminate the Model B airspace designated."

NAR 1-2.2.7 CHARTING

"The Task Group recommends for further consideration by Task Group 1-6 that all Model B Airspace Cores be charted, and that either a visual or narrative method of identifying the Outer Limits of Model B Airspace be undertaken."

NAR 1-1.2.8 EDUCATION

"The Task Group recommends the aviation community be made aware of Model B Airspace by educational programs to support ATC operational and procedural information, phraseology, practices, and the desirability of voluntary participation. Specifically, it is recommended:

1. All FAA pilot exams and appropriate textbooks must contain a significant amount of questions and information concerning radar operation in terminal areas. Specifically, operations and procedures be included in written and practical tests for pilot certification, ratings, and reviews.
2. Specific questions and answers must be required on all flight reviews and other appropriate occasions (air carrier initial and recurrent proficiency training, pilot proficiency exams, biennial flight review, etc.) to assure that users in every aviation community have shown a current understanding of radar terminal areas and their use of these areas.

3. The FAA develop and fund a traveling air traffic team to speak to pilot groups on operations within the National Airspace System; i.e., Model B airspace. Emphasis should be given to flight instructor contact.
4. An advisory circular dealing with Model B airspace be published to include well presented, up-to-date information on operations in terminal airspace and that this advisory circular be given the widest possible dissemination to aviation users and organizations.
5. The Airman's Information Manual (AIM) be distributed free of charge to all fixed base operators (FBO's) at all public use airports.
6. FAA Public Affairs Office develop and promote through the general news media, aviation awareness of FAA services and publications available to the pilot and general public.
7. Facts about terminal airspace in some form of questionnaire be developed and distributed by the FAA to appropriate agencies (licensed pilots, fixed base operators, business organizations, etc.). This questionnaire could be a public relations effort, advisory circular, or included in the Airman's Information Manual.
8. FAA continue to make available to interested pilot groups training or other audio-visual aids that deal with terminal radar operations."

A copy of the task group report is in the public docket.

THE CURRENT SITUATION

A TRSA is the airspace surrounding designated airports wherein the FAA provides radar vectoring, sequencing, and separation on a full-time basis to all aircraft operating under IFR and participating aircraft operating under VFR.

Within the National Terminal Radar Program, there are three levels of service provided to aircraft operating under VFR. The first or basic level of service is referred to as basic radar service and consists of traffic advisories and radar vectoring when requested by the pilot or when suggested by ATC and accepted by the pilot. This service is provided by all commissioned terminal radar facilities as an additional service.

In addition to the basic service, certain terminal radar facilities provide radar advisory and arrival sequencing to aircraft operating under VFR. This enhanced level of service, referred to as Stage II, is intended to adjust the flow of all arriving aircraft into the traffic pattern in a safe and orderly manner and to provide radar traffic information to departing aircraft operating under VFR. Pilot participation is urged but is not mandatory.

The third and most enhanced level of service provided to aircraft operating under VFR in the terminal radar environment is known as Stage III Service. This program offers radar sequencing and separation as well as all of the other level services to all participating aircraft operating under VFR. As with the other levels of service, pilot participation is also urged but is not mandatory. Stage III is in use at all TRSA locations. TRSA's are depicted on sectional aeronautical charts.

The task group identified a number of problems with the TRSA program which they felt should be corrected. The task group stated that, because there are different levels of service offered within the TRSA, users are not always sure of what they are getting in terms of service; and they are not always sure of what restrictions/privileges exist, or how to cope with them. According to the task group, there is a feeling shared among users that TRSA's are often poorly defined, generally dissimilar in dimensions and encompass more area than is necessary or desirable. There are other users who believe that the voluntary nature of the TRSA does not adequately address the problems associated with nonparticipating aircraft operating close to the airport and associated approach and departure courses. There is strong advocacy among user organizations that terminal radar facilities should provide all pilots the same service, in the same way, and to the extent feasible, within standard size airspace designations.

Certain provisions of FAR § 91.87 add to the problem identified by the task group. For example, aircraft operating under VFR to or from a satellite airport in an airport traffic area (ATA) are excluded from the two-way radio communications requirement of FAR § 91.87. This condition is acceptable until the volume and density of traffic at the primary airport dictates the installation of a radar approach control. In the past, the FAA has resorted to special rulemaking under FAR Part 93, or designated TCA airspace in order to maintain safety and efficient utilization of airspace. Both of these actions represent one extreme end of the spectrum of needed control. On the other extreme is the simple airport traffic area with its attendant provisions in FAR §§ 91.85 and 91.87. The FAA believes an ARSA with associated ATC services represents a compromise action between a TCA and an ATA.

ANALYSIS OF COMMENTS

The FAA published the NAR Task Group 1-2.2 recommendation in Notice 83-9 (July 28, 1983; 48 FR 34286). The FAA received a total of 46 comments.

The Aircraft Owners and Pilots Association (AOPA) states that Notice 83-9 did not explain that a NAR recommendation may represent a consensus or a simple majority of the members of the NAR task group. AOPA also stated that it and other task group members differed with one or more aspects of the task group recommendation as noted in the staff study. Although Notice 83-9 set forth the recommendation without explaining the workings of the task group, it did indicate that a copy of the staff study is in the public docket. As stated in the comment of the National Business Aircraft Association, Inc. (NBAA) in support of the proposal, the recommendation was "the result of a conscientious effort on the part of all task group participants to compromise on the best possible solution without being overly restrictive on any of the airspace users." AOPA objects to the use of the word "confirmation" and prefers the words "operational test" to describe the purpose of the proposed rulemaking. The FAA does not agree with AOPA's statement that: "Use of the word 'confirmation' throughout appears to be an effort to prejudge the results of the test." Since the NAR task group recommendation did not address how the recommendation should be implemented, the FAA chose to propose to confirm the recommendation at selected locations rather than proposing the recommendation for national implementation.

AOPA further commented that Notice 83-9 should have contained a more detailed description of the ATC procedures that would be used in an ARSA and that the users should be given the opportunity to review the ATC procedures before implementation. There is little difference between a TRSA and an ARSA with regard to ATC procedures. The only "new" ATC procedure planned for use in the ARSA is conflict resolution; however, this is merely the existing "merging target procedures" set forth in paragraph 47 of the Air Traffic Control Handbook (FAA Order 7110.65) with a mandatory element added by the SFAR. The text of that paragraph is as follows:

"47. MERGING TARGET PROCEDURES

a. Except while they are established in a holding pattern, apply merging target procedures to all radar identified:

(1) Aircraft at 10,000 feet and above.

(2) Turbojet aircraft regardless of altitude.

(3) Presidential aircraft regardless of altitude.

b. Issue traffic information to those aircraft listed in a. whose targets appear likely to merge unless the aircraft are separated by more than the appropriate vertical separation minima.

c. If the pilot requests, vector his aircraft to avoid merging with the target of previously issued traffic.

47.c. Note: Aircraft closure rates are so rapid that when applying merging target procedures, controller issuance of traffic must be commenced in ample time for the pilot to decide if a vector is necessary.

d. If unable to provide vector service, inform the pilot."

The mandatory element enhancing the above procedure is that ATC must initiate action to resolve any potential conflict, and paragraph 3(c) of the SFAR requires each pilot to comply with ATC clearances and instructions. The phraseology used by ATC in communicating instructions and clearances to a pilot will be the same as it is today in a TRSA.

AOPA believes confusion might be caused by the requirement to maintain two-way radio communications with the facility having jurisdiction over the ARSA in situations where a nearby airport traffic area overlaps the ARSA. The FAA agrees and the SFAR has been modified to provide that the two-way radio communications requirement is met when communications are established with the appropriate tower or ARSA facility. AOPA objects to the statement in Notice 83-9 that "The NAR task group recommended the replacement of all TRSA's with Model B airspace (ARSA's)." The FAA agrees that the statement is too broad and that it should have reflected the limitations contained in the task group recommendation, NAR 1-2.2.6 AIRSPACE DESIGNATION CRITERIA, which is set forth in Notice 83-9 and is repeated in this preamble. AOPA further states that the mere existence of terminal radar at an airport is not justification for an ARSA and that their information indicates the FAA is considering up to 138 locations for ARSA's. Other commenters felt the ARSA establishment criteria was vague. Both of the confirmation sites fall within the NAR recommended criteria; i.e., both locations are TRSA's and are serviced by either a Level III, IV, or V radar approach control facility. Under the task group recommendation, similar Level III, IV, or V facilities would be candidates for an ARSA. These locations are:

Anchorage, AK	Birmingham, AL	Huntsville, AL
Mobile, AL	Montgomery, AL	Fort Smith, AR
Little Rock, AR	Phoenix, AZ	Tucson, AZ
Burbank, CA	Monterey, CA	Oakland, CA
Ontario, CA	Palm Springs, CA	Sacramento, CA
San Diego, CA	Santa Ana, CA	Colorado Springs, CO
Windsor Locks, CT	Daytona Beach, FL	Ft. Lauderdale, FL
Jacksonville, FL	Orlando, FL	Pensacola, FL
Tallahassee, FL	Tampa, FL	W. Palm Beach, FL
Columbus, GA	Macon, GA	Savannah, GA
Kahului, HI	Cedar Rapids, IA	Des Moines, IA
Boise, ID	Champaign, IL	Moline, IL
Peoria, IL	Rockford, IL	Springfield, IL
Evansville, IN	Fort Wayne, IN	Indianapolis, IN
South Bend, IN	Wichita, KS	Cincinnati, KY
Lexington, KY	Louisville, KY	Baton Rouge, LA
Lafayette, LA	Lake Charles, LA	Shreveport, LA
Baltimore, MD	Portland, ME	Flint, MI
Grand Rapids, MI	Kalamazoo, MI	Lansing, MI
Saginaw, MI	Gulfport, MS	Jackson, MS
Billings, MT	Charlotte, NC	Fayetteville, NC
Greensboro, NC	Raleigh, NC	Lincoln, NE
Omaha, NE	Atlantic City, NJ	Albuquerque, NM
Reno, NV	Albany, NY	Buffalo, NY
Islip, NY	Rochester, NY	Rome, NY
Syracuse, NY	White Plains, NY	Akron Canton, OH
Columbus, OH	Dayton, OH	Toledo, OH
Youngstown, OH	Oklahoma City, OK	Tulsa, OK
Portland, OR	Allentown, PA	Erie, PA

Harrisburg, PA	Kwajalein, PC	San Juan, PR
Quonset Pt., RI	Charleston, SC	Columbia, SC
Greer, SC	Bristol, TN	Chattanooga, TN
Knoxville, TN	Memphis, TN	Nashville, TN
Amarillo, TX	Austin, TX	Beaumont, TX
Corpus Christi, TX	El Paso, TX	Lubbock, TX
Midland, TX	San Antonio, TX	Salt Lake City, UT
Chantilly, VA	Norfolk, VA	Richmond, VA
Roanoke, VA	Burlington, VT	Spokane, WA
Tacoma	Green Bay, WI	Madison, WI
Milwaukee, WI	Charleston, WV	

Also, under the task group's recommendation, the following Level II TRSA locations may be ARSA candidate locations depending on an FAA review of those locations in the light of the criteria, in NAR Recommendation 1-2.2.6, the FAA's existing TRSA establishment criteria, and comments received on operations conducted under this SFAR.

Augusta, GA	Monroe, LA	Bangor, ME
Muskegon, MI	Duluth, MN	Rochester, MN
Great Falls, MT	Asheville, NC	Wilmington, NC
Fargo, ND	Binghamton, NY	Wilkes-Barre, PA
Sioux Falls, SD	Abilene, TX	Longview, TX
Huntington, WV		

AOPA commented that users must be readily able to visually distinguish the ARSA from other charted airspace areas, e.g., a TRSA. Further, it felt that only the dimensions of the 5 mile "core" and the airspace between 5 and 10 miles should be charted. The FAA agrees and has developed a prototype depiction for the confirmation locations. Comments on this aspect are especially requested. Commenting further on charting, AOPA recommends that the existing criteria in FAA Order 7400.2B, paragraph 167, or an on-airport VORTAC be used to determine the surface center of an ARSA. For this confirmation period, the criteria in FAA Order 7400.2B, paragraph 167, will be used. The text of that criteria is as follows:

"167. GEOGRAPHIC POSITION OF AIRPORT

A control zone radius is measured from the 'geographic position' of the primary airport.

Note: 'Geographic position' expressed in coordinates to the nearest five seconds, is established by National Ocean Survey as follows:

a. Box the runway pattern, excluding overruns, with a rectangle (based line oriented E-W) which touches the outermost runway on each of the four sides. Only active runways or those temporarily closed are considered.

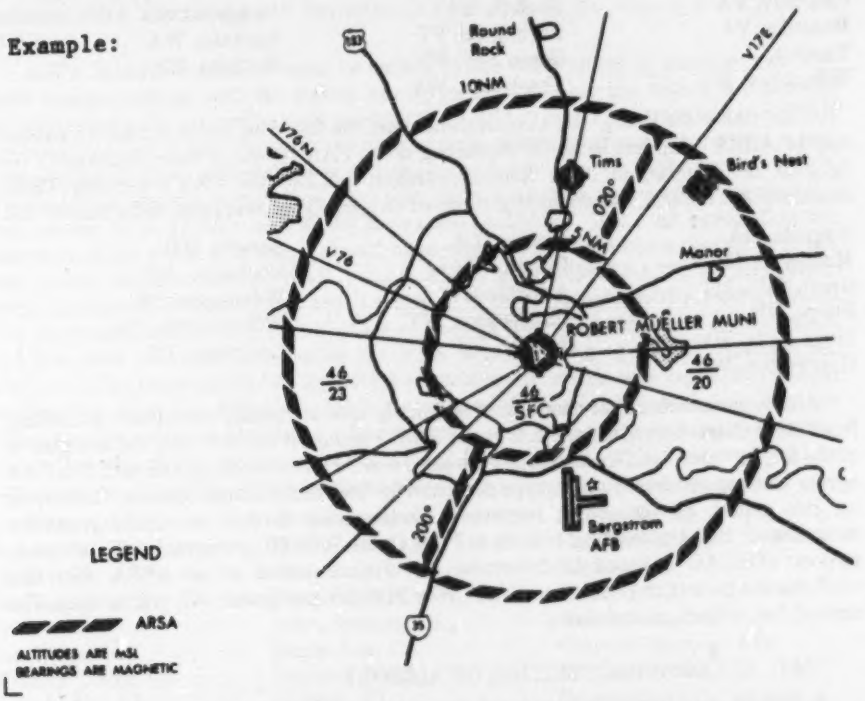
b. Draw lines through the box from diagonal corners.

c. The intersection of the diagonals is the geographic position."

AOPA suggests that NAR Recommendation 1-2.2.8 (Education) should be accomplished before the confirmation period begins. The FAA agrees that the recommended education should be accomplished if ARSA's are established on a national scale. However, the SFAR establishes ARSA's only at two locations and the FAA is confident the education techniques specified in Notice 83-9 are sufficient for those locations during the limited confirmation period. AOPA also proposes that the floor of airspace juxtaposed to the ARSA be raised at one of the two locations to coincide with the 1,200 feet above ground level (AGL) floor of the ARSA airspace in order to allow greater flexibility to airport operators that try to circumnavigate the 5-mile portion of the ARSA that extends to the surface. The FAA believes it premature to adjust a standing airspace description in FAR Part 71 for an action that may not be permanent. Furthermore, the FAA believes the 1,200 foot AGL vertical base of the ARSA airspace between 5 and 10

miles could be confusing to pilots and ATC, especially to pilots who are trying to remain under the base and to ATC personnel who are trying to determine when the mandatory aspects of ATC services must be applied. Therefore, the FAA has decided to segment the ARSA airspace between 5 and 10 miles and establish the floors of those segments based on altitudes above MSL. The floor of a segment represents 1,200 feet above the highest terrain in that segment. This SFAR reflects this segmentation.

Example:



AOPA also suggests that there were sufficient members of NAR Task Group 1-2.2 having reservations on any need to designate an ARSA up to 4,000 feet above the airport elevation (AAE) to bring the ARSA ceiling limit back into question. AOPA suggests that an altitude of 3,000 feet AAE be established as the ceiling of one of the ARSA's. Other commenters suggest that because of the VFR cruising altitude requirements of FAR § 91.109, flights that now avoid the airport traffic area by flying at 3,000 feet above the airport would, depending on direction of flight, be required to fly an additional 2,500 feet higher. The FAA believes the ARSA altitude ceiling recommendation as presented by the task group should be used for the purpose of confirming any national application of the NAR recommendation. If national application of the ARSA is indicated during the confirmation period, the FAA will review FAR § 91.109 to determine if the FAA should propose any amendment to that section or to the ARSA description.

A number of commenters believe that national implementation of ARSA's should not be based solely on the operational acceptance of the ARSA's at the two selected sites. The FAA does not propose to implement additional ARSA's without first seeking public comment. Several commenters suggest that a standardized statement should "tell" the pilot that he has permission to enter an ARSA. Obtaining permission (authorization) to enter an ARSA is not a requirement of the rule unless the two-way radio communications requirement of the rule cannot be met. Pilots have "permission" to enter an ARSA when they meet the two-way radio communications requirement of the SFAR.

A number of commenters believe the proposed SFAR would cause the density of traffic to increase in the airspace adjacent to the ARSA because an increased number of overflights would be forced under or around the outside of the ARSA in attemping to avoid the ARSA. The FAA does not believe that the overflight operators currently participating in the voluntary provision of the TRSA's would elect to forego the similar services of an ARSA merely because of the new two-way radio communications requirement of the SFAR. This is especially true since FAR § 91.85 now requires any operator of any overflight to obtain an ATC authorization before conducting an overflight in an airport traffic area. Several commenters, mostly sailplane operators, object to the two-way radio requirement of the SFAR. An FAA review of airport operations within a 15 nautical mile radius of Austin and Columbus indicated that no sailplane operations would be directly affected by the SFAR. However, if for reasons of efficiency or safety, an operator cannot meet, or is incapable of meeting, the two-way radio communications requirement of the SFAR, that operator may request and, as appropriate, receive authorization from ATC.

Contrary to one commenter's belief, the 5 mile "core" and the airspace between 5 and 10 miles of the ARSA are not separate recommendations of the NAR task group and therefore were not treated separately in Notice 83–9.

The Airline Pilots Association (ALPA), while generally favoring the SFAR, objects to provisions in the SFAR which would allow ultralight and parachute jump operations to be conducted in the ARSA under ATC authorizations because Notice 83–9 did not address the issue of ATC separation service between any such authorized operations and aircraft operations. Under existing regulations, ultralight and parachute jump operations must obtain an authorization before conducting such operations in a control zone. Ultralight operations are likewise restricted in airport traffic areas. Any ATC element that issues an authorization must ensure that an acceptable level of safety is provided for the authorized and any other affected operations, e.g., segregation, advisories, etc. The FAA does not intend any changes in these requirements. Further, ALPA suggests the phrase "conflict resolution" when relating to ATC services should be replaced with the words "ensure aircraft do not conflict." For the purposes of this SFAR the procedure referred to as conflict resolution means that ATC will initiate action designed to ensure that aircraft do not conflict. ALPA also questions the adequacy and accuracy of terminal radars which permit a reduction of separation from the current minimums to simply ensuring that the aircrafts' radar targets do not merge with each other. Conflict resolution, for the purpose of this confirmation, is a procedure, not a separation minimum, and may be equated to the current merging target procedures in FAA Order 7110.65. Under merging target procedures, however, the controller is directed to vector an aircraft to avoid a potential merging target only upon the pilot's request. Under conflict resolution procedures the controller must initiate actions to ensure that the radar targets do not merge, i.e., the pilot's request for a vector is not a prerequisite for applying conflict resolution procedures. Any of the following conflict resolution techniques may be applied by the controller to resolve potential conflicts: (1) vertically separate the aircraft by 500 feet; (2) assign the separation responsibility to the pilot if one of the pilots has the other aircraft in sight; or (3) vector one or both aircraft to ensure that the aircraft radar targets do not merge. ALPA further expressed concern with what they believe would be a derogation in the current wake turbulence procedures if conflict resolution procedures are put into practice. The FAA has not proposed a change and no change is contemplated in the application of wake turbulence procedures. The adoption of conflict resolution procedures will in no way replace the application of wake turbulence procedures. Also, ALPA questions the discussion in Notice 83–9 entitled, "Related Airspace Studies," which it took to mean that the ARSA may be reclassified under a separate airspace action. The intent in including this item in Notice 83–9 was to advise the aviation community that another NAR task group has reviewed the current airspace classification. The FAA is considering that group's recommendations. A copy of the task group report is in the public docket. ALPA suggests that the ARSA's be described and graphically depicted on special charts and the

Class II NOTAM publication in addition to the FAA's intention to depict the ARSA on appropriate sectional charts. As stated in the Notice, the FAA plans to depict the ARSA's on the affected sectional charts. Time does not permit development of special charts and the FAA does not believe the expense of such special charts would be justified in view of the limited period of time the SFAR will be effective. This is especially true since the similarity of the ARSA with the TRSA lends itself to a relatively easy transition. Nevertheless, the Class II NOTAM publication will contain appropriate announcements, depictions, and information.

One commenter, while agreeing with the proposal as it pertains to arrivals at an ARSA, believes that requiring mandatory participation by aircraft departing airports in the ARSA was unnecessary. The commenter favors making the participation voluntary for departing aircraft. The FAA believes that, for the purpose of the confirmation period, the task group recommendation should be followed in order that all aspects of the recommendation can be considered and commented on based on service experience. A number of commenters believe the period allocated for commenting was insufficient. Most of these commenters objected to an envisioned application of the ARSA provisions beyond the two confirmation locations. As noted in Notice 83-9, the FAA determined that a 30-day comment period was sufficient because of the participation of the aviation community in the development of the recommendations and especially since the SFAR only affects two locations for a limited period of time. Further, one of the purposes of the SFAR is to obtain substantive comments on ARSA's based on operational experience. Therefore, this SFAR provides for a 5-month comment period on the ARSA and any potential national application it may have.

The Air Transport Association (ATA) suggests specific separation criteria be established for use in the ARSA which would apply between an aircraft operating under VFR and an aircraft operating under IFR, i.e., 500 feet vertical and 1 mile horizontal. This new separation criteria would, they suggest, replace the ATC procedure, conflict resolution, as described in Notice 83-9. The FAA would have considered some type of specific separation minimum for the situations ATA addresses if the selected locations had the traffic density and air carrier/general aviation mix that exists today at terminal control area (TCA) locations. However, the FAA believes the conflict resolution procedure identified in this SFAR provides an adequate level of safety for aircraft operations at the selected locations and the use of these procedures may indicate that they provide a viable alternative that could be applied to similar situations in a TCA where today a separation minimum is applied.

Several commenters believe that prospective ARSA's should be the subject of meetings with the public before the issuance of a final rule. Since the ARSA designations under this SFAR are not permanent, and their purpose is to seek operational experience under the NAR recommendation there is no need to precede this SFAR with public meetings. However, if operational experience or comments received during the confirmation period indicate that follow-on ARSA action is warranted, the FAA will hold informal airspace meetings at the affected locations. A number of commenters suggest that climb corridors, similar to those in existence at some military bases years ago, should be used to confine operations into and out of Robert Mueller Municipal Airport at Austin, TX, and Port Columbus International Airport at Columbus, OH. The FAA believes an ARSA should accommodate a random flow of aircraft. Therefore, existing traffic flows at the selected terminal areas should remain virtually unchanged with an ARSA. A climb corridor would drastically change those traffic flows by requiring affected airport operations to be funneled into narrow corridors and for that reason the FAA does not believe the climb corridor is a valid replacement for either an ARSA or TRSA. Several commenters object to what they perceived as a proposal to require aircraft to be equipped with transponders for operations in the ARSA. Others believe that the two-way radio communications requirement of the ARSA was simply a first step to requiring transponders. One commenter suggests that transponders be required for aircraft operations in the ARSA. The task group did not recommend requiring transponders, and

the FAA does not envision any need in the near future to require aircraft operating in an ARSA to be equipped with transponders.

A number of commenters believe that the ARSA would cause an increase in the number of aircraft using ATC radio frequencies and thereby cause two-way radio congestion. The FAA recognizes this as a potential problem and is prepared, should the need arise, to take appropriate actions to relieve levels of activity on ATC radio frequencies that might jeopardize safety and efficiency. Such actions could include decombining control sectors, adjusting controller functions, and redistributing overall controller workload.

One commenter requested the FAA to depict satellite airport traffic flows or patterns on aeronautical charts. The FAA believes that such depiction would tend to increase chart clutter and therefore would be more detrimental than beneficial. Another commenter believes that there are no departure traffic patterns except those in FAR Part 93. FAR Part 1, in pertinent part, defines a traffic pattern as either an arrival or departure traffic flow. FAR § 91.89, requires departure operations conducted at an airport without a control tower to comply with any FAA traffic pattern. Such traffic patterns may be specified under an FAR Part 157 determination on any new or altered airport, or under a revised determination issued for reasons of safety. When such traffic patterns are established, corresponding aeronautical information is published in the Airport/Facility Directory. Another commenter believes the ARSA would render existing training areas unusable. The FAA is not aware of any training areas in the ARSA airspace between 5 and 10 miles that conflict with the existing airport traffic flows. Nonconflicting training areas may continue to exist under appropriate ATC authorizations or letters of agreement containing ATC authorizations with the facility having jurisdiction over the ARSA. It should be noted that any operations conducted in training areas within the 5 mile "core" currently are conducted under the airport traffic area requirements of FAR §§ 91.85 and 91.87 and no new requirements are contemplated for such operations in the ARSA.

The Experimental Aircraft Association (EAA) stated it supports the task group recommendation to eliminate the present TRSA program and establish a new ARSA concept in terms of design criteria, service, and standardization, on the basis of voluntary participation. EAA favors a totally voluntary participation ARSA and believes that controllers would be able to determine, by the use of radar, any hazardous situation developing between a participant and a nonparticipant and take appropriate action. In such a situation, the action would have to be the controller requiring a participant to take action to avoid a nonparticipant even though it may be the nonparticipant that is creating the potential conflict. Thus, if the mandatory aspects of ATC services in an ARSA were to be applied to a voluntary participation ARSA, then total accountability would rest solely on participants and ATC in avoiding nonparticipants. The FAA is not convinced the FAA recommendation is a viable alternative to the task group recommendation and specific comments are requested on this suggested modification of the NAR recommendation.

ADOPTION OF NAR RECOMMENDATIONS

After reviewing the NAR recommendations published in Notice 83-9 in the light of comments received, the FAA believes the potential safety and efficiency benefits to be realized justify the issuance of a SFAR to implement the task group recommendation at two locations. Implementation of these recommendations is limited to establishing ARSA's to replace the Austin, TX, and Columbus, OH, TRSA's to determine national applicability of the NAR recommendations. The FAA's action with respect to each of the recommendations is set forth below.

NAR 1-2.2.1 REPLACE TRSA's WITH ARSA's AND ARSA SERVICES

The FAA will confirm the ARSA concept at two airports. During the confirmation period, the TRSA's at the designated locations will be suspended by NOTAM. To the extent the operational confirmation demonstrates a realistic standard that has national applicability, general rulemaking will be initiated to replace appropriate TRSA's with ARSA's.

NAR 1-2.2.2 INNER AREA (CORE) SIZE AND OPERATING REQUIREMENTS

The physical dimensions of the ARSA and the operating requirements recommended by the task group are adopted except that the floors of the airspace between 5 and 10 miles will be segmented and expressed in altitudes above MSL instead of AGL because of variations in terrain elevations. This deviation is in the spirit of the task group's recommendations and every effort will be made to ensure that the ARSA airspace between 5 and 10 miles will be segmented only as necessary.

NAR 1-2.2.3 OUTER AREA LIMITS AND OPERATING REQUIREMENTS

The airspace that would have been affected by this recommendation is currently designated as controlled airspace. Since the task group has not proposed any new operating requirements for that airspace, rulemaking is not required.

NAR 1-2.2.4 ATC SERVICES

The ATC services that the task group recommended the FAA provide within the ARSA will be implemented under the FAA directives system. The services which will be mandatorily applied by ATC in the ARSA will be available to pilots on a voluntary participation basis elsewhere in the approach control's area of jurisdiction. These services will be in addition to the services and separation currently applied to aircraft operating under IFR. Specifically, ATC will: (1) Resolve potential conflictions between aircraft operating under IFR and aircraft operating under VFR so that those aircraft's radar targets do not merge; and (2) provide traffic advisory service and arrival sequencing to aircraft.

NAR 1-2.2.6 AIRSPACE DESIGNATION CRITERIA

The Austin, TX, and Columbus, OH, Airports meet the airspace designation criteria recommended by the task group.

NAR 1-2.2.7 CHARTING

During the confirmation period, the affected sectional charts will depict the ARSA as designated in the SFAR.

NAR 1-2.2.8 EDUCATION

Education activities will be directed toward the two confirmation locations and the task group recommendations will be further considered in the light of information developed during the confirmation period. For each ARSA, the FAA will conduct informal user briefings in the local areas affected and issue "letters to airmen" to pilots in the surrounding areas. These actions are designed to explain the mandatory nature of the ATC services described above (NAR 1-2.2.4 ATC SERVICES).

Related Airspace Studies

Coincidental with this action, another NAR Task Group (1-7) is considering a proposal that would classify all U.S. airspace except special use airspace. Classification of airspace has been a topic of discussion for sometime especially by the International Civil Aviation Organization (ICAO). The U.S. airspace system has become increasingly complex in recent years, as it has been subdivided and modified in order to accommodate new and changing operational requirements. The objective of the U.S. airspace classification effort would be to simplify the system and provide compatible interface with bordering countries. The ARSA could be easily incorporated into the overall classification plan for terminal radar locations currently under consideration.

Synopsis of the Rule

This SFAR describes a new type of airspace assignment, designates airspace within that description at two locations, Austin, TX, and Columbus, OH, airports, and prescribes

operating rules for aircraft, ultralight vehicles, and parachute jump operations associated with the airspace assignments. The ATC services addressed above are an essential part of the overall SFAR and will be provided through appropriate ATC clearances, instructions, and advisories. These rules and airspace assignments will not replace any existing FAR Part 71 airspace rule or assignment; or any airport traffic area as defined by FAR Part 1 and within which FAR Part 91 rules apply. Operations under the proposed SFAR must be in compliance with all other applicable regulations and rules.

For aircraft arriving at any airport within the ARSA, prior to entering the ARSA: (1) Two-way radio communications must be established with ATC; and (2) while in the ARSA, two-way radio communications must be maintained with ATC. For aircraft departing from the primary airport in the ARSA, two-way radio communications must be maintained with ATC while operating in the ARSA. For aircraft departing a satellite airport or heliport within the ARSA, as soon as practicable after takeoff, two-way radio communications must be established with ATC, and thereafter maintained with ATC while operating within the ARSA.

All aircraft operating within an ARSA are required to comply with all ATC clearances and instructions and any FAA arrival or departure traffic pattern for the airport of intended operation. However, the rule permits ATC to authorize appropriate deviations to any of the operating requirements of the SFAR when safety considerations justify the deviation or more efficient utilization of the airspace can be attained.

ECONOMIC IMPACT

The FAA conducted a detailed regulatory evaluation which is included in the regulatory docket. Based on a review of local airport traffic control tower (ATCT) operations data, the National Transportation Safety Board (NTSB) accident data file and the FAA Accident/Incident Data Systems, the FAA has determined that the provisions of this SFAR provide cost savings to society in general and certain general aviation (GA) operators that outweigh the additional costs imposed on those operators. Specifically, the benefits will be provided to society in terms of a reduction in midair collisions (MAC's) as a result of the ARSA two-way communication requirement and arrival sequencing service. Benefits to certain GA operators will also be realized by the reduction of aircraft separation minimums as well as airspace simplicity. The provisions of this SFAR impose new costs on certain GA operators in terms of additional delays that may be incurred because of the possibility of receiving ATC instructions or clearances which would delay access to the ARSA. Additionally, the Federal Government will incur costs associated with educating the airman populace in the lead site locations. There are no costs associated with: (1) Avionics upgrading; (2) FAA recurring program administration; (3) materials; (4) sectional charting; or (5) circuituous routing operations.

Benefits

Implementing the proposed ARSA's is expected to provide three primary benefits: (1) A reduction in MAC occurrences; (2) operating cost savings due to reduced separation minimums; and (3) airspace simplicity.

Society is expected to benefit from a reduction in MAC's as a result of the ARSA mandatory two-way communications requirement and ATC's arrival sequencing service. These provisions provide a mechanism for reducing the amount of unknown traffic and thus the incidence of MAC's.

The FAA conducted an extensive review of MAC accidents that occurred during the period of 1978–1982. Data was derived from NTSB accident reports and the FAA Accident/Incident Data System. The FAA determined that 34 accidents that would have been preventable at an ARSA location occurred at 136 airports which employ TRSA services. FAA then developed a regression analysis for these accidents per airport providing TRSA services over a 5-year period as a function of annual aircraft operations based on 1982 operations. The result of this regression analysis is a nonlinear equation

that determines the annual number of expected MAC's based on annual airport operations at airports that provide TRSA services.

The equation is:

$c = .027(n)^{1.80}$

where c = annual expected number of MAC's

.027 and 1.80 = the coefficients which yielded the least error between the actual and estimated number of collisions and

n = annual operations in units of 100,000. FAA assumes n = 2.0, for Austin, Texas, and 2.6, for Columbus, Ohio, in 1984 and increases by 5 percent annually.

Solving the equation for Austin, the number of annual expected ARSA-preventable MAC's will range from 0.094 in 1984 to 0.190 in 1992, or a total of 1.24 expected preventable MAC's over the 9-year period.

Solving the equation for Columbus, the number of annual expected ARSA-preventable MAC's will range from 0.151 in 1984 to 0.304 in 1992, or a total of 1.98 expected preventable MAC's over the 9-year period.

Next, the FAA considered the costs of a MAC which include the value of lives lost, injuries, and aircraft damage. Based on a review of FAA and NTSB accident data, published aviation activity and cost reports, the FAA determined that the average weighted cost per MAC (assuming two GA aircraft are involved) in 1983 dollars is $1,644,000. This determination considers such factors as different types of GA aircraft, average numbers of occupants on board, probabilities of fatalities, injuries, and aircraft damage associated with relevant costs and distribution of hours flown by aircraft. By considering MAC costs associated with GA accidents only, the minimum level of benefits is derived.

Based on the above formula and GA collision costs, the undiscounted MAC cost savings in 1984 are approximately $155,000 for Austin and $248,000 for Columbus. Tables 1 and 2 depict the estimated undiscounted benefits for years 1984 through 1992 for Austin and Columbus, respectively. These estimates incorporate a 5 percent annual increase in forecasted operations.

Additionally, certain VFR operators would experience 1 minute savings in arrival time as a result of reduced separation minimums during selected nonpeak hours (operators would also benefit during peak hours; however, these benefits are examined as a tradeoff against VFR sequencing delay under costs). ATC management at the confirmation sites estimates that 12,480 operations at Austin and 6,240 operations at Columbus would benefit each year. Assuming an average GA aircraft variable operating cost (VOC) of $89.94 per hour[1], which is inflated to 1983 dollars, the undiscounted cost savings in 1984 are approximately $18,700 for Austin and $9,400 for Columbus. Tables 1 and 2 depict the estimated undiscounted benefits for years 1984 through 1992 for Austin and Columbus, respectively. These estimates incorporate a 5 percent annual increase in forecasted operations.

Finally, FAA believes the simplicity of the ARSA airspace structure and the standardized services provided within the ARSA should be easier for GA operators to understand.

Costs

This SFAR imposes new costs on GA operators in terms of additional delay and costs on the Federal Government associated with educating the airman populace in the lead site locations.

FAA estimates that 36,000 and 8,667 VFR departure operations in 1984 will be impacted at Austin and Columbus, respectively, by requirements to contact clearance delivery for a departure frequency. The estimated time to accomplish this is approximately

---

[1] *Economic Values for Evaluation of FAA Investment and Regulatory Programs*, U.S. DOT, FAA, September 1981

1 minute per operation. FAA also estimates the value of operator time is $58.95 per hour (see footnote 1). This estimate assumes that these are GA operators and the mix of aircraft flown by these operators is 50 percent, 30 percent, 20 percent for single engine piston, multiengine piston, and turboprop aircraft, respectively.

Therefore, the undiscounted cost of delay due to VFR departure requirements in 1984 is approximately $35,400 for Austin and $8,500 for Columbus. Tables 1 and 2 depict the estimated undiscounted costs for years 1984 through 1992 for Austin and Columbus, respectively. These estimates incorporate a 5 percent increase in forecast operations.

Certain VFR operators are expected to experience some delay during peak hours resulting from arrival sequencing. FAA estimates that 9,360 Austin and 15,600 Columbus operations would be delayed an average 1.5 minutes per operation (delays of 2.5 minutes minus 1 minute gained from reduced separation). Based on a GA VOC of $89.94 per hour, the undiscounted cost of VFR arrival sequencing in 1984 is approximately $21,000 for Austin and $35,000 for Columbus. Undiscounted costs for years 1984 through 1992 are depicted in Tables 1 and 2 for Austin and Columbus, respectively. These estimates assume an annual increase of 5 percent in forecast operations.

Certain VFR operators could experience delay resulting from being denied immediate access into the ARSA when traffic is at or near capacity. FAA estimates that 3,120 Austin and 2,080 Columbus operations would be impacted annually with an average delay time of 3 minutes per operation. Assuming an average GA aircraft VOC of $89.94 per hour, the undiscounted cost of delay to enter a proposed ARSA in 1984 is approximately $14,000 for Austin and $9,400 for Columbus. Cost estimates are shown in Tables 1 and 2 for Austin and Columbus, respectively, for years 1984 through 1992 and assume an annual increase in operations of 5 percent.

Additionally, the Federal Government will incur a one-time only cost in 1983 to establish and provide training at Austin and Columbus. Costs include FAA salaries and fringe benefits, travel expenses, public meetings, bulletins, and letters to airmen. The estimated cost of this task is approximately $20,000 per site.

Benefit Cost Conclusion

Based on the above methodology, for Austin, the discounted value of the cost savings for the period 1983 to 1992 is approximately $1.36 million and the discounted value of the costs is $0.50 million, for a benefit cost ratio of 2.70 to 1. For Columbus, the discounted value of the cost savings for the period 1983 to 1992 is approximately $2.03 million and the discounted value of the costs is $0.40 million, for a benefit cost ratio of 5.32 to 1. This is shown in Tables 1 and 2, respectively.

International Trade Impact Analysis

This SFAR will not influence or affect international trade involving aviation products or services. No comments were received concerning the international trade impact statement in Notice 83-9. Therefore, FAA certifies that this rule will not eliminate existing, or create additional, barriers to the sale of foreign aviation products or services in the U.S. and will not eliminate or create additional barriers to the sale of U.S. aviation products and services in foreign countries.

Comments Received on the Economic Impact

Comments concerning the regulatory evaluation and regulatory flexibility determinations in Notice 83-9 were received from nine commenters. None of these comments resulted in any change to the benefit/cost considerations in this SFAR. These comments are discussed in the regulatory evaluation that is in the public docket.

Regulatory Flexibility Determination

The Regulatory Flexibility Act (RFA) of 1980 was enacted by Congress to ensure that small entities are not disproportionately affected by Government regulations. The RFA requires agencies to review rules which may have a "significant economic impact on a substantial number of small entities."

Small entities impacted by this proposed rule include operators of GA aircraft such as private businesses, fixed-base operators and corporate/executive operators. FAA estimates that a minimum of 30 and 40 of these operators at Austin and Columbus, respectively, conduct local and itinerant operations.

The costs incurred by operators in Austin would be net operating costs due to delay. The total undiscounted 1984 cost (in 1983 dollars) as shown in Table 1 is $51,829 (reduced separation standard benefits of $18,708 minus total delay costs of $70,537). Therefore, the average cost per operator in 1984 is $1,728. FAA applies an average cost per operator because the number of annual operations for these small entities individually is not known.

The costs incurred by operators in Columbus would be net operating costs due to delay. The total undiscounted 1984 cost (in 1983 dollars) as shown in Table 2 is $43,592 (reduced separation standard benefit of $9,354 minus total delay costs of $52,946). Therefore, the average cost per operator in 1984 is $1,090. FAA applies an average cost per operator because the number of annual operations for these small entities individually is not known.

FAA and Small Business Administration published standards do not define threshold significant regulatory costs for these operators. Based on standards recently adopted by the FAA, the lowest threshold annualized cost level for a small entity group applies. The costs per operator of $1,728 and $1,090 are below the lowest threshold.

Therefore, FAA has determined that the proposed rule does not have a significant economic impact on a substantial number of small entities.

Accordingly, Special Federal Aviation Regulation 45 is issued, effective December 22, 1983, through December 21, 1984, for Austin, TX, and January 19, 1984, through January 18, 1985, for Columbus, OH and added to CFR Parts 71, 91, 103 and 105.

(Secs. 307 and 313(a), Federal Aviation Act of 1958, as amended (49 U.S.C. 1348, 1354(a)); 49 U.S.C. 106(g) (Revised, Pub. L. 97-449, January 12, 1983); 14 CFR 11.45; and 14 CFR 11.65.)

Note—For the reasons stated under the heading "Economic Impact," the FAA has determined that this document involves a regulation which: (1) Is not a major rule under Executive Order 12291; and (2) is not a significant rule under Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). Also, for the reasons stated under the heading "Regulatory Flexibility Determination," I certify that the rule will not have a significant economic impact on a substantial number of small entities. The total projected impact of the amendment may be found in a copy of the final regulatory evaluation contained in the public docket. A copy of that evaluation may be obtained by contacting the person identified above under the caption "FOR FURTHER INFORMATION CONTACT."

[Special Federal Aviation Regulation 45

[Contrary provisions of the Federal Aviation Regulations notwithstanding,

[1. The Robert Mueller Municipal Airport, Austin, TX, and the Port Columbus International Airport, Columbus, OH, are designated Airport Radar Service Area (ARSA) airports at which, unless otherwise provided for in a Notice to Airmen issued by the ARSA facility, radar services will be provided continuously.

[(2) For purposes of this Special Federal Aviation Regulation:

[(a) The Austin, TX, ARSA is that airspace extending upward from the surface to and including 4,600 feet MSL within a 5 nautical mile radius of the Robert Mueller Municipal Airport and that airspace extending upward from 2,000 feet MSL to 4,600 feet MSL within a 10 nautical mile radius of Robert Mueller Municipal Airport from the 027° true bearing from the airport clockwise to the 207° true bearing from the airport and that airspace extending upward from 2,300 feet MSL to 4,600 feet MSL within a 10 nautical mile radius of the airport from the 207° true bearing from the airport clockwise to the 027° true bearing from the airport.

[(b) The Columbus, OH, ARSA is that airspace extending upward from the surface to and including 4,800 feet MSL within a 5 nautical mile radius of the Port Columbus International Airport and that airspace extending upward from 2,500 feet MSL to 4,800 feet MSL within a 10 nautical mile radius of Port Columbus International Airport from the 008° true bearing from the airport clockwise to the 127° true bearing from the airport and that airspace extending upward from 2,200 feet MSL to 4,800 feet MSL within a 10 nautical mile radius of the airport from the 127° true bearing from the airport clockwise to the 008° true bearing from the airport.

[(c) The primary airport is the airport for which the ARSA is designated; a satellite airport is any other airport, heliport, helipad, etc., within that ARSA.

[3. Unless otherwise authorized or required by ATC—

[(a) Arrivals and Overflights—no person may operate an aircraft in an ARSA unless two-way radio communication is established with ATC prior to entering that ARSA and is thereafter maintained with ATC while within that ARSA;

[(b) Departures—no person may operate an aircraft within an ARSA unless two-way radio communication is maintained with ATC while within that ARSA, except that for aircraft departing a satellite airport, two-way radio communication is established as soon as practicable and thereafter maintained with ATC while within that ARSA;

[(c) ATC Instructions and Clearances—except in an emergency, no person may, while within an ARSA, operate an aircraft contrary to an ATC clearance or instruction;

[(d) Traffic Patterns—no person may takeoff or land an aircraft within an ARSA except in compliance with FAA arrival and departure traffic patterns; and

[(e) Ultralight Vehicle and Parachute Jump Operations—no person may operate an ultralight vehicle within, or make a parachute jump within or into, an ARSA except under the terms of an ATC authorization issued by the ATC facility having jurisdiction over that ARSA.

[4. In addition to the required preflight actions of FAR § 91.5, each pilot in command shall review NOTAM's pertaining to flight within an ARSA prior to conducting flight in an ARSA.

[This Special Federal Aviation Regulation terminates at 12:01 a.m. local time: December 22, 1984, at Austin, TX; and January 19, 1985, at Cclumbus, OH, unless sooner superseded or rescinded.]

UNITED STATES
GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

Official Business

Postage and Fees Paid
Federal Aviation
Administration
DOT 515

TO THE HOLDERS OF OLD FAR PART 103

Old FAR Part 103, Transportation of Dangerous Articles and Magnetized Materials was revoked effective July 1, 1976 and consolidated into Title 49 Department of Transportation Regulations Part 175, Carriage of Aircraft (41 FR 15972, 4/15/76, Docket HM-112). That appeared in Change 7 to Part 103 and Change 8 to Part 103 stated to retain the Part and file it with the Materials Transportation Bureau, DOT regulations.

With the existence of new FAR Part 103, Ultralight Vehicles, the previous Part 103 should now be disposed of.

PARTICIPATION IN NOTICE OF PROPOSED RULEMAKING PROCEDURES

Your purchase of Part 103 indicates that you have a need for the regulatory material that it contains.

It is possible that this Part is sufficiently important to you that you may wish to participate in the rulemaking process when a change is proposed. If you are not on the Notice of Proposed Rulemaking mailing list for this Part and wish to receive further Notices of Proposed Rulemaking, without charge, please complete the request below and send it to the address indicated.

Upon receipt, an individual "Record Ident" will be created from the information you submit and your name will be placed on a computerized mailing list. The "Record Ident" is the key that controls all changes to your record and is reflected in the mailing label used to send you Notices of Proposed Rulemaking. Therefore, it is important that you save one of the mailing labels and include it in any correspondence you initiate concerning this NPRM service as it will ensure positive identification and prompt response.

NPRM ORDER FORM

Department of Transportation
Office of the Secretary
Distribution Requirements Section, M-482.2
Washington, D.C. 20590

Please place the following on the Part 103 Notice of Proposed Rulemaking mailing list:

Title or Name:

_____

Company:

_____

Address _____
(Street)

_____
(City) (State) (Zip)

IMPORTANT NOTICE

Part 103 is sold on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, therefore subscribers will receive Changes to this Part automatically.

NOTICE TO FAA AND OTHER GOVERNMENT USERS

Distribution of Changes to this Part within the Federal Aviation Administration and other U.S. Government agencies will be made automatically by FAA in the same manner as distribution of this basic Part.

Introductory Note

Part 103, effective October 4, 1982, is codified under Subchapter F, Air Traffic and General Operating Rules, of Title 14 of the CODE OF FEDERAL REGULATIONS.

Part 103—Ultralight Vehicles

Contents

Section		Page
Preambles		P-1
	Subpart A—General	
103.1	Applicability	1
103.3	Inspection requirements	1
103.5	Waivers	1
103.7	Certification and registration	1
	Subpart B—Operating Rules	
103.9	Hazardous operations	1
103.11	Daylight operations	1
103.13	Operation near aircraft, right-of-way rules	2
103.15	Operations over congested areas	2
103.17	Operations in certain airspace	2
103.19	Operations in prohibited or restricted areas	2
103.21	Visual reference to the surface	2
103.23	Flight visibility and cloud clearance requirements	2

Part 103—Ultralight Vehicles
Operating Requirements

Adopted: July 30, 1982 **Effective: October 4, 1982**

(Published in 47 FR 38770, September 2, 1982)

SUMMARY: This amendment establishes rules governing the operation of ultralight vehicles in the United States. The rule defines ultralight vehicles in two categories: powered and unpowered. To be considered an ultralight vehicle, a hang glider must weigh less than 155 pounds; while a powered vehicle must weigh less than 254 pounds; is limited to 5 U.S. gallons of fuel; must have a maximum speed of not more than 55 knots; and must have a power-off stall speed of not more than 24 knots. Both powered and unpowered ultralight vehicles are limited to a single occupant. Those vehicles which exceed the above criteria will be considered aircraft for purposes of airworthiness certification and registration, and their operators will be subject to the same certification requirements as are aircraft operators. These rules for ultralight vehicles are needed to achieve an acceptable level of air safety by reducing potential conflict with other airspace users and to provide protection to persons and property on the ground.

The rule governs the operation of ultralight vehicles by specifying the airspace which requires prior authorization of Air Traffic Control (ATC), prohibiting operations over congested areas, and providing for operations during twilight hours with proper lighting. Right-of-way and minimum visibility rules are also established.

The FAA has chosen not to promulgate Federal regulations regarding pilot certification, vehicle certification, and vehicle registration, preferring that the ultralight community assume the initiative for the development of these important safety programs. The ultralight community is expected to take positive action to develop these programs in a timely manner and gain FAA approval for their implementation. Should this approach fail to meet FAA safety objectives, further regulatory action may be necessary.

FOR FURTHER INFORMATION CONTACT:

Ken Peppard, Airspace and Air Traffic Rules Branch (AAT-220), Federal Aviation Administration, Washington, D.C. 20591, telephone (202) 426-3128, or

Gary Perkins, General Aviation Operations Branch (AFO-820) Federal Aviation Administration, Washington, D.C. 20591, telephone (202) 426-8194.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued Advisory Circular No. 60-10, entitled "Recommended Safety Parameters for Operation of Hang Gliders" on May 16, 1974. That advisory circular contained recommended safety parameters for the operation of sport hang gliders, in lieu of formal Federal regulation. The advisory circular defined "hang glider" as "an unpowered, single place vehicle whose launch and landing capability depends on the legs of the occupant and whose ability to remain in flight is generated by natural air currents only."

The sport of hang gliding has advanced dramatically since Advisory Circular No. 60-10 was issued. There is now widespread use of powerplants, landing gear, and movable control surfaces to increase the speed, altitude, and distance capabilities of the vehicles. Many models have passenger-carrying capability. As a result of those developments, many hang gliding vehicles no longer fall within the scope envisioned by Advisory Circular No. 60-10. The addition of powerplants and controllable aerodynamic surfaces has created vehicles which can approximate the operational capabilities of fixed-wing and rotary-wing aircraft.

The increasing performance capabilities of these vehicles, and their greatly increased number, have created a potential hazard to other aircraft and operators, as well as to the ultralight operators themselves. As the result of aerodynamic improvements, many

unpowered hang gliders are now capable of extended soaring to altitudes exceeding 10,000 feet above the point of launch and distances of over 100 miles. The powered hang gliders now have the capability of sustained flight above 10,000 feet and forward speed exceeding 50 knots. The operations of these vehicles are now a significant factor in aviation safety. The vehicles are routinely operated, without authorization, into regulated airspace, such as airport traffic areas, terminal control areas, positive control areas, and prohibited and restricted areas. Many operations have also taken place over congested areas and spectators and into adverse weather conditions in which operations may be conducted by pilots and aircraft which are qualified for instrument flight (IFR conditions). The midair collision potential presented by unauthorized operations is contrary to the FAA responsibility of ensuring the safety of all airspace operations including air carrier aircraft.

To illustrate the potential for hazardous situations that can arise, the FAA has recorded data detailing numerous instances of ultralight vehicles in controlled airspace causing near-miss situations with aircraft. The following examples highlight the problem:

(1) On March 24, 1981, an MU–2 flew between two ultralights operating off the end of the runway at Winter Haven, Florida. Both ultralights were equipped with floats and were operating at night without lights.

(2) On April 11, 1981, a Western Airlines 727 captain reported a near-miss with an ultralight vehicle in the vicinity of Phoenix Sky Harbor Airport.

(3) In May of 1981, the pilot of a single engine aircraft reported a near-miss with an ultralight vehicle near Paso Robles, California. According to the report filed under the FAA Aviation Safety Reporting Program, the ultralight was operating at 7000 feet in IFR weather conditions. The airplane pilot, who was operating on an IFR flight plan, was forced to take evasive action to avoid a collision.

To establish regulations to deter flights which present a serious danger to aircraft and to provide a basis for necessary enforcement action, the FAA published Notice of Proposed Rulemaking No. 81–6 on July 27, 1981 (46 FR 38472). That Notice proposed to include both powered and unpowered hang gliders under the generic term "ultralight vehicle" and included proposed weight and fuel limitations for those vehicles. The Notice proposed a number of operational limitations for ultralight vehicles, while recognizing that the vehicles are used primarily for sport purposes. More than 2,500 persons and organizations submitted comments to that proposed rule. This rule is the result of FAA consideration of those comments in light of its responsibility for safety in the National Airspace System. Because of the growing significance of this segment of the aviation community, the new rules have been codified under a new Part of the Federal Aviation Regulations, Part 103.

THE RULE

Subpart A—General

Section 103.1 Applicability (proposed § 101.1(a)(3)).

This section defines the term "ultralight vehicle." The proposed rule would have limited the term to single-occupant designs weighing less than 155 pounds, with a fuel capacity of 15 pounds or less, and which had no U.S. or foreign airworthiness certificate. The final rule expands the definition to differentiate between powered and unpowered ultralight vehicles. The 155-pound weight limitation has been retained for unpowered designs and is the only criterion for those vehicles. Those ultralights equipped with powerplants must weigh less than 254 pounds empty weight. In addition, powered ultralight vehicles must have a fuel capacity not exceeding 5 U.S. gallons and be incapable of more than 55 knots calibrated airspeed at full power in level flight. The power-off stall speed of a powered ultralight must not exceed 24 knots calibrated airspeed.

The rule restricts both powered and unpowered vehicles to single occupants and requires that the aircraft be used exclusively for sport or recreational purposes.

The FAA estimates that nearly all unpowered vehicles currently on the market will fall within the definition of ultralight vehicle. The new criteria will exclude approximately 7% of the powered vehicle designs currently being marketed as ultralights, although many of those may be suitable for modifications to bring them within the scope of the definition.

Unpowered ultralight vehicles

A number of commenters, including the United States Hang Gliding Association (USHGA), object to the inclusion of "pure" hang gliders in the same definition as powered hang gliders. They raise the point that there are a number of distinctive operational differences between a pure hang glider and a powered vehicle which should be considered when assessing the necessity for regulations for these vehicles. The USHGA emphasizes its own self-regulation program and safety record.

The FAA recognizes that the measures taken by the USHGA to promote safety at USHGA launch sites have been effective, particularly those measures taken to protect the participants. However, the basic rationale for issuance of this rule is the safety of all users of the national airspace, not just the ultralight operators. The great majority of hang gliding operations will not be affected by these regulations because, as a number of commenters indicate, they are usually conducted in rural or remote areas, at low altitudes, away from areas where safety of other persons in the air or on the ground is compromised. It is only in congested areas, airport traffic areas, and other areas frequented by aircraft involved in air commerce that these rules would restrict operations of unpowered ultralight vehicles.

The USHGA's self-regulation program lacks the legal authority to enforce requirements to ensure the safety of others. There is no requirement for any hang glider operator to be a member of the USHGA. Current hang glider publications have carried a number of articles describing hang glider operations which violate Part 91 regulations as well as the recommendations of Advisory Circular No. 60-10. Those descriptions have included operations near and into clouds, low-altitude operations over open-air assemblies of persons, and flights in close proximity to airports with large concentrations of airline and general aviation aircraft operations. Those potentially hazardous operations created the requirement for Federal regulatory limitations on hang gliders.

The proposed maximum weight restriction of less than 155 pounds was retained for unpowered ultralight vehicles to: (1) recognize the unpowered vehicles as a separate entity from those that are powered; and (2) ensure that the unpowered vehicles continue to meet essentially the same criteria that prevented their being classified as conventional gliders. Under this rule, those unpowered vehicles weighing 155 pounds or more must be certificated under the appropriate FAR's. No specific comments were received which objected to the 155-pound limitation on unpowered vehicles.

Powered ultralight vehicles

A large number of commenters request that the proposed maximum empty weight of 155 pounds be raised for powered ultralight vehicles. The suggestions range from 180 to 350 pounds. The reasons offered include greater structural integrity, more opportunity for design innovations, and the fact that many of the vehicles presently operated exhibit all of the other characteristics generally attributed to ultralights but weigh more than the proposed weight limit.

The FAA, by review of ultralight advertisements as of March 1982, has concluded that the empty weights of most of those vehicles range from 150 to 250 pounds. It was further concluded that the higher weights resulted from improvements which provide greater structural integrity, better stability, more positive controllability, and other safety-oriented additions which do not derogate the characteristics commonly associated with ultralight operations. Those characteristics are identified as low forward speeds, low wing loadings, low stall speeds, short takeoff and landing capability, and no enclosures around the pilot.

Some commenters suggest that limitations of 220 pounds or 330 pounds be adopted because they are "international standards." This is not correct. Canada, England, and

Australia adopted 220 pounds as the maximum weight for a particular category of aircraft. In those countries, even if the weight limitation is met, the aircraft must be certificated and the pilots licensed. The 330-pound limit was established by the Federation Aeronautique Internationale for a category called "microlight aircraft." That category was established merely for the purpose of recording performance achievements of a particular group of aircraft.

The FAA agrees that the weight limitation for powered ultralight vehicles should be raised from the proposed 155 pounds. The 254-pound limitation was established because it closely corresponds to commenters' recommendations that the weight limitation be raised to at least 115 kilos, and because the vast majority of current vehicles on the market weigh less than 254 pounds. This weight does not include floats or safety devices intended for deployment in an emergency situation, e.g., parachutes and the harnesses and ballistic package necessary for deployment.

A large number of commenters recognize that, if the weight were raised, some restriction would have to be imposed to ensure that the characteristics associated with ultralights would be preserved. Those commenters include organizations such as the Experimental Aircraft Association (EAA), the Aircraft Owners and Pilots Association (AOPA), and the Professional Ultralight Manufacturers Association (PUMA).

The restrictions they propose range from simple wing loading values to complex aerodynamic formulas. They include maximum wing loading suggestions, minimum wing areas in relation to weight, maximum power capabilities in relation to weight, and calculations of launch mass. Some commenters suggest, and the FAA considered, that the pilot be required to be exposed fully to the relative wind. This requirement was dropped to accommodate cold weather operations and to avoid stifling design and efficiency improvements within the parameters of an ultralight vehicle.

The maximum forward airspeed limitation was selected by the FAA because it is faster than almost all ultralight vehicles currently being sold but still places those vehicles in a significantly slower performance category than conventional aircraft. The determination and enforcement of this speed limitation is within the capability and resources of the FAA under the inspection requirements of the rule.

A number of commenters suggest maximum stall speed restrictions ranging from 18 to 25 miles per hour, believing that this limitation would continue to ensure the safe nature of ultralight vehicles. The FAA believes that the ability of those vehicles to operate from surfaces other than those designed for aircraft is a factor which lessens the potential for collisions and reduces the interference with aircraft operations. A relatively slow stall speed is a major contributing factor in allowing ultralight pilots to operate in a safe manner.

A maximum power-off stall speed of 24 knots was chosen because it encompasses most of the vehicles currently on the market. The stall speed is easily determined through a simple calculation using information which is readily available to the FAA inspector when inspecting a specific vehicle.

The total allowable fuel capacity was raised from the proposed 15 pounds to 5 U.S. gallons. The decision to increase the volume of fuel is a direct result of the desire by the FAA, in response to public comments, to ensure that adequate fuel reserves are available for safe flight.

Single Occupant

The rule limits both powered and unpowered ultralight vehicles to a single occupant. A few commenters suggest that two-seat versions be available for carrying passengers or for training purposes. The basis for allowing ultralight vehicles to operate under special rules which do not require pilot and aircraft certification is the "sport" aspect of the operation. For example, the assumption can be made that a person who elects, without pilot qualifications, to operate an uncertificated vehicle alone is fully aware of the risks involved. This assumption does not hold true of a passenger selected randomly from the general public. Persons in the general public will likely assume that the operator has

certificated pilot qualifications. Because pilot qualifications are not controlled or monitored, the single-occupant requirement is a necessary component in the continuation of the policies which allow the operation of ultralight vehicles free from many of the restrictions imposed on aircraft. Persons wishing to operate two-place vehicles have the availability of existing provisions of the FAR's for conducting such operations.

Recreation or Sport Purposes Only

Recent activities and advertisements in ultralight-oriented publications (included in the docket) imply that commercial operations may be conducted by an uncertificated pilot in an ultralight which has not been certificated as an aircraft. Those types of operations are not allowed under the rule.

Several commenters suggest that ultralight vehicles be limited to sport or recreational purposes only. The position of the FAA has consistently been that these vehicles may be operated for sport and recreation purposes only. The justification for allowing the operation of these vehicles without requiring aircraft and pilot certification has been that this activity is a "sport" generally conducted away from concentrations of population and aircraft operations. Like any sport, the participants are viewed as taking personal risks which do not affect others not involved in the activity.

Section 103.3 Inspection requirements (proposed § 101.55).

This section ensures the FAA's authority to inspect ultralight vehicles for compliance with the limits specified in § 103.1 and is retained in the final rule as proposed in Notice No. 81-6.

A large number of commenters object to the inspection requirements, believing that considerable FAA manpower and resources would be required in this effort. The USHGA and its membership contributed a majority of the objecting comments, citing the remoteness of hang gliding sites as impractical for the FAA to monitor.

Given the current level of ultralight activity, the FAA is confident that enforcement of the provisions of Part 103 can be accomplished with the existing resources. As is the case today, many investigations of suspected violations are prompted by reports received from pilots, air traffic controllers, citizens, and other sources. The FAA foresees no appreciable increase in the number of these reports as a result of this rule.

Section 103.5 Waivers

In proposing to include ultralight operations under Part 101, ultralights would have been eligible for the waiver provisions applicable to all operations under that Part. By removing the ultralight proposal from Part 101, the waiver eligibility for ultralights would have been lost. The FAA has concluded that the ultralight industry and the public would be best served by retention of waiver eligibility for these vehicles.

Thus, § 103.5 is added to the final rule, giving the ultralight operator the opportunity to apply for a certificate of waiver from any provisions of Part 103.

Section 103.7 Certification and registration

The intent of the FAA is to provide for safety in the national airspace with a minimum amount of regulation. Accordingly, those vehicles which meet the definition of "ultralight vehicle" will be exempt from FAA certification and registration requirements. Similarly, pilots of ultralight vehicles, as defined in this Part, will not be required to possess FAA pilot certificates or airman medical certificates.

While this rule does not, at this time, require airman/aircraft certification or vehicle registration and is premised on the absolute minimum regulation necessary to ensure safety in the public interest, a continuation of burgeoning growth of the ultralight population could necessitate further regulation. The best practices and methods to preclude the need for further Federal regulation appear to at least include: self-regulation and self-policing, safety standards, membership in organizations and associations equipped to function and operate programs approved by the FAA, markings and identification of vehicles, programs including provisions similar to Federal Aviation Regulations relating to aircraft (both operation and airworthiness), etc.

FAA will continue to monitor performance of the ultralight community in terms of safety statistics, growth trends, and maturity and, if indicated, will take additional regulatory actions to preclude degradation of safety to the general public while allowing maximum freedom for ultralight operation. In summary, it should be emphasized that the individual ultralight operator's support and compliance with national self-regulation programs is essential to the FAA's continued policy of allowing industry self regulation in these areas.

Pilot Certification

A large number of commenters believe that there should be some requirement that pilots of ultralights be required to exhibit some knowledge and/or experience before being allowed to operate these vehicles. The suggestions range from no requirements to pilot certification under the requirements of Part 61. The general groupings of the comments are: (1) No certification; (2) required ground training on regulations and conventional aircraft operations; (3) required ground training and instructor sign-off for unsupervised solo operations; (4) successful passage of a written test, such as the FAA glider pilot written examination; (5) issuance of an Ultralight Pilot Certificate by the FAA based on satisfactory completion of an examination, and observed performance as the pilot of an ultralight; and (6) conforming to the certification requirements of Part 61 for student and private pilots.

The FAA endorses the ultralight community's efforts to develop and administer, under FAA guidelines, a national pilot certification program. At this time, however, pilots of ultralight vehicles are not required by Federal regulation to be certificated.

Aircraft Registration

Some commenters, primarily State and local governments, recommend that these vehicles be registered and be required to display their registration number. The reasons center around identification of any offenders. The FAA's experience in identification of offenders and processing enforcement action validates their recommendations. The FAA endorses the ultralight community's efforts to develop and maintain, under FAA guidelines, a national registration system which would be immediately accessible to the FAA. However, registration of ultralight vehicles will not be required by Federal regulation at this time.

Aircraft Certification

There are a small number of commenters who recommend additional Federal regulations requiring certification of ultralight vehicles to some design standards. The FAA has consistently refrained from the certification of these vehicles because they were operated by a single occupant for sport or recreational purposes. This policy is in accord with Federal regulatory policies regarding other sport activities. The pilots of these vehicles accept the responsibility for assuring their personal safety much as the driver of a moped street vehicle or a scuba diver does when engaged in his sport. The FAA has noted and commends the efforts of the USHGA to establish design standards and flight testing of new hang glider designs. The FAA endorses the development of similar standards and testing of new powered designs by the ultralight community. However, the FAA presently has no intent to require certification of these vehicles by Federal regulation.

Subpart B—Operating Rules

Section 103.9 Hazardous operations (proposed § 101.7).

This section prohibits any ultralight operator from engaging in activity which jeopardizes the safety of persons or property on the ground or in the air. The prohibition against hazardous flight or dropping of objects is common to the regulations pertaining to civil aircraft, and the FAA is addressing ultralight operations with equivalent stringency.

Section 103.11 Daylight operations (proposed § 101.43).

The proposed rule would have limited the operation of ultralights to the hours between official sunrise and official sunset. The limitation on daytime operations was retained with an added provision for twilight operations under certain conditions. Other night-time operations are not allowed.

A large number of commenters request that flight during the twilight periods of the day be allowed since those are prime times to conduct ultralight operations. They state that meteorological conditions are often best during those periods and are characterized by a lack of wind and turbulence. The AOPA believes that calm air is particularly important for the novice flyer and provides an increased safety factor, especially during training when confidence building is essential. Many commenters believe that the available light is generally adequate to allow operations during those periods and that other craft could be safely avoided.

There are some commenters who believe that operations in Alaska should be excluded from the daylight operations section. They allude to the uniqueness of their "normal" day and how ultralight operations would be adversely affected.

Several comments support the original proposal and do not want operations during the nighttime hours. The primary concern centers around the difficulty in seeing these vehicles, especially at the higher altitudes, and the perceived inability of these operations to be conducted safely.

The FAA has observed ultralight operations during the twilight periods and has found the light available for such operations to be adequate in many instances. Operators were able to maneuver safely to avoid each other and also effect safe takeoffs and landings. Since most vehicles are operated at nearly the same altitude, they could be easily seen silhouetted against the lighted sky. Operations were conducted in relatively close proximity to each other, and each operator was readily aware of the others' presence. The mild weather conditions which generally prevailed during the twilight periods combined with the controllability and maneuverability of these vehicles to enhance the safety factor for flight.

The FAA is concerned, however, that unlimited operations of this type could pose a threat to aircraft which operate at higher speeds and higher altitudes. The number of potential encounters between aircraft and ultralights increases significantly as ultralights operate into areas normally traversed by certificated aircraft. Also, the ability of aircraft pilots descending into the lower altitudes to see ultralights would be minimal due to the darkened backdrop of the ground. Pilots would often not be aware of such operations taking place and could easily overrun an ultralight without ever having visual contact.

The FAA has adopted an alternative which provides an acceptable level of safety to aircraft while still allowing ultralights to operate in uncontrolled airspace during this period of the day. The FAA's conclusion on this issue is to disallow ultralight operations in controlled airspace during the period from sunset to sunrise. This affords aircraft operators the margin of safety to which they are entitled and, at the same time, leaves adequate airspace to the ultralight operator during a 30-minute twilight period.

The FAA has determined that the occasional aircraft operation in uncontrolled airspace during the twilight period should not entirely preclude ultralight operations. The visibility from above of ultralights operating at very low levels can be significantly enhanced by the addition of an anticollision light on these vehicles. Such a light would provide the descending aircraft pilot with a distinct indication of the ultralight's presence. Additionally, it would enable ultralight operators to better see and avoid each other.

For the purposes of ultralight operation, an anticollision light is defined as any flashing or stroboscopic device that is of sufficient intensity so as to be visible for at least 3 statute miles. This regulatory approach does not impose on the ultralight owner the economic burden associated with a certificated lighting system. The ultralight must remain in uncontrolled airspace, and the anti-collision light must be operating during the twilight periods whenever the vehicle is in motion.

With respect to twilight operations in Alaska, the FAA recognizes that the periods of twilight are significantly different from those experienced in the lower latitudes. A review of the Air Almanac reveals that, in the upper latitudes, some days have no daylight periods but have over 4 hours of civil twilight. Civil twilight is defined as the period between official sunset and sunrise when the sun is less than 6 degrees below the horizon.

Regulations currently exist in Parts 91 and 101 which acknowledge the need to grant special allowances for operations in Alaska after sunset, and the FAA has determined that ultralights are entitled to the same consideration. Therefore, a provision to permit ultralight operations in Alaska during civil twilight has been added to § 103.11. The requirement to have an operating anticollision light during twilight operations is applicable to operations during this period in Alaska.

Section 103.13 Operations near aircraft and other ultralight vehicles; Right-of-way rules (proposed § 101.49).

The proposed regulations with respect to ultralight vehicle right-of-way are adopted. An additional provision is added to clarify the right-of-way requirements in situations involving powered and unpowered ultralight vehicles.

The comments regarding right-of-way range from those who believe that unpowered ultralight vehicles should have the right-of-way over all other vehicles and aircraft to those who believe that the requirements of § 91.67 should be adopted, with unpowered ultralights being grouped with gliders and the powered ultralights grouped with airplanes. The most salient reasons cited include lack of maneuvering ability and inability to change location in the air quickly.

The suggestions and associated rationale do not reveal any areas which had not been considered during the formulation of the NPRM. The FAA has determined that uncertificated sport operations should not be given the right-of-way over all other aircraft. The small size and sport nature of the operations is a major factor in that determination. It is unlikely that the pilot of aircraft will be able to see the ultralight vehicle as readily as the pilot of the ultralight vehicle will be able to see or hear the larger aircraft. Due to the forward speeds of the majority of aircraft, it may be impossible for the aircraft to make sudden changes of direction required to avoid small objects sighted at close quarters. The FAA recommends that operators engaged in ultralight operations avoid, if possible, areas where significant operations of aircraft are occurring so as to minimize the risk of midair collisions.

Some ultralight operators express concern that, if they are not given the right-of-way over aircraft, the pilots of those aircraft might deliberately fly in close proximity to the ultralights. In situations where this act can be substantiated , an investigation will be initiated to determine whether the pilot of the conventional aircraft operated in a careless or reckless manner in violation of § 91.9.

Some commenters recommend the establishment of areas where ultralight operations could be conducted and all aircraft operations would be prohibited. While the FAA has undertaken to identify locations on aeronautical charts where a specialized aeronautical activity, such as parachute jumping or gliding, is being conducted, no action is anticipated which would restrict other types of aeronautical activities in those areas and, similarly, no such action is contemplated for ultralights.

Section 103.15 Operations over congested areas (proposed § 101.47).

The proposed prohibition of ultralight vehicle operations over congested areas is retained in the final rule. The comments favoring an easing of the proposed rule focus on three main areas: (1) Those who favor permitting operations with a minimum altitude ranging from 1,000 to 3,000 feet AGL; (2) those requesting that the minimum altitude requirements of § 91.79 be allowed; and (3) those who believe that no minimum altitude should be specified, especially for unpowered vehicles, due to the short field ability and small size of the vehicles.

The representatives of cities and towns who commented generally favor the prohibition, believing that uncertificated aviation activities have no place over congested areas.

The FAA's position is based on the fact that ultralight vehicles are not certificated as airworthy by any approved method and are flown by uncertificated pilots for sport or recreational purposes only. Similar limitations apply to the operations of experimental and

restricted category aircraft based on catastrophic incidents which have occurred in the past. The potential for such an incident makes the general issuance of the suggested authorization unacceptable. The FAA believes that concentrations of the general public must be protected from the possible dangers inherent in the operations of vehicles of uncertificated, possibly unproven designs. In specific limited instances, with appropriate operational limitations, ultralight operations may be approved over congested areas, through the waiver provisions of § 103.5.

Section 103.17 Operations in certain airspace (proposed § 101.45).

The NPRM proposed to require the ultralight operator to obtain authorization prior to operating within airport traffic areas, control zones, terminal control areas, and positive controlled airspace.

Operators of aircraft commented that the speed and visibility of ultralights are incompatible with other operations and that they should not be allowed at all in those areas. Some even suggest that a maximum operating altitude, such as 3,000 feet AGL, be imposed on all ultralight operations.

The FAA shares the concern expressed by pilots who are wary of the ability to intermix faster aircraft safely with the relatively slow ultralights; but, experience has shown that aircraft of significantly different performance characteristics can be accommodated when operations are conducted in accordance with specific authorizations. There is considerable precedence in the form of glider operations, hot air ballooning, and parachuting being conducted while aircraft safely transit the area. Historically, the greatest danger comes not from performance variables, but from operations unknown to the pilot or controller. The requirement to gain authorization before entering these airspace areas enhances the safety to all airspace users. The FAA has concluded that ultralight vehicles in compliance with the provisions of § 103.19 will be able to operate safely in those airspace areas.

Although the subject was not addressed in the NPRM, some commenters voice concern about ultralight operations conducted at or near uncontrolled airports, with many persons noting a need to develop standard operating procedures. The FAA agrees with the need to establish a compatible method of operation at uncontrolled airports but believes that the variables associated with each locality (terrain, runway configuration, and the physical properties of the airport) combine in such a manner to preclude a generalized nationwide regulatory approach. The FAA has concluded that such operations could be handled much more efficiently by airport managers developing local procedures in concert with the ultralight community. In this way the available facilities can be used to the full extent while operational safety is maintained. Additionally, the interaction of the ultralight operators and the airport managers will serve as a basis for mutual understanding of the role this growing segment of aviation will play in the years ahead. The FAA encourages and supports efforts to reach such agreements and has been working with user groups in the development of guidelines for ultralight operations at uncontrolled airports.

Section 103.19 Operations in prohibited or restricted areas.

In the NPRM, requirements for operations of ultralights were included under the provisions of § 101.5.

In the final rule, the requirement for ultralight operators to obtain authorization prior to operating in prohibited or restricted areas is retained and restated under § 103.21.

Prohibited areas have been developed to provide for the safety and security of operations being conducted and to segregate activities considered to be hazardous to nonparticipating aircraft. Such operations in these areas include military and presidential security, flight training and testing, experimental weapons testing, and the launch and recovery of rocket-powered vehicles.

Many commenters recognize the need to limit access to these operating areas and accept the requirement to obtain permission prior to operating in these areas. A few

commenters believe that this restriction should not apply to them and that ultralight vehicles should be allowed to operate at their own risk.

The FAA has determined that allowing any aeronautical activity to enter prohibited or restricted areas without prior authorization would derogate the purpose for which these areas were established. Avoidance of such areas by ultralight operators is not viewed as imposing a significant burden on ultralight operations.

Section 103.21 Visual reference to the surface (proposed § 101.51).

NPRM No. 81-6 proposed that ultralight operators be required to maintain visual reference to the surface during all flight operations. This would ensure that the operator of an ultralight would have the opportunity to descend and land safely at any time without entering obscuring weather phenomena.

Many commenters support the proposal as reasonable and representative of normal ultralight operations. They recognize the possibility of being caught "on top" and the danger, both to themselves and to other airspace users, of trying to descend through a layer of clouds. A few commenters believe that visual reference to the surface is necessary only while climbing or descending and not while in level flight.

The FAA has determined that visual reference with the surface is necessary at all times. Experience with certificated aircraft has shown that many pilots, with fully instrumented aircraft, have been caught "on top" and have required assistance from Air Traffic Control to descend safely. Flying "on top" or between cloud layers often presents visual illusions which cannot be verified without instrumentation. The effect of these illusions is to disorient the airman spatially, with a resulting loss of control of the craft. It takes a well-trained and disciplined pilot to ignore what information the human senses are providing and rely on the instrumentation aboard the aircraft.

In the case of ultralights, there is relatively little, if any, instrumentation with which to confirm the flight attitude of the vehicle. Further, if the ultralight operator should get caught "on top," there is no alternative available but to descend unannounced through the clouds. The ultralight operator would be risking not only his own life, but the lives of persons who rely on the safeguards inherent in certificated aviation.

The FAA has determined that inclusion in the final rule of the requirement to maintain visual reference with the surface is necessary to reduce the potential for collisions and ensure the safe operation of ultralight vehicles.

Section 103.23 Flight visibility and cloud clearance requirements (proposed § 101.53).

The flight visibility and cloud clearance requirements proposed in the NPRM are the same as those under § 91.105, the basic minima for VFR flight operations by fixed-wing aircraft. Since ultralight vehicles will be sharing the same airspace, the FAA has determined it is practical to apply the same operating minima.

Many commenters to this proposal are receptive to the similarity in visibility requirements for all airspace users. Many ultralight operators indicate an appreciation for the inherent safety in being able to see and avoid obstructions and other aeronautical activities. Establishment of specific visibility standards is viewed as enhancing the legitimacy and the utility of ultralight operations.

Some commenters believed that the distance from clouds should be reduced to "clear of clouds." Their basis for such a change centers around the difficulty in determining actual distances from clouds.

Other commenters suggest that hang gliders be allowed to continue their practice of operating near and in the base of clouds. Their rationale is based on the added lift available from being in close proximity to cumulous clouds. Some hang glider operators fear that the restriction on in-cloud operations would eliminate their ability to vie for long-distance and high-altitude records.

The FAA cannot support the operation of ultralights in or near clouds. A specific distance from clouds is required when operating in controlled airspace, primarily due to the presence of aircraft conducting instrument flight operations through the clouds. The

cloud clearance requirements serve as a practical buffer to reduce the possibility of having an aircraft exit the clouds on an unalterable collision course. Operating too close to clouds does, in effect, cause a blind side in the aviator's vision. Operation in and near clouds severely restricts the ultralight operator's ability to see and avoid, an ability that is paramount in allowing ultralight operations to take place.

In maintaining a safe distance from clouds, the FAA has concluded that ultralight operators can reasonably approximate, when operations are being conducted, the required distance from clouds. Experience with other segments of aviation has shown that it is readily apparent that, when operations approach an unsafe distance from clouds and adherence to the prescribed minimum distance determination becomes relatively easy. Therefore, retention of the flight visibility and clouds clearance requirements, as proposed, is essential for maintaining airspace safety.

ADOPTION OF THE AMENDMENT

Accordingly, the Federal Aviation Regulations (14 CFR Chapter I) are amended, effective October 4, 1982, by adding to Subchapter F (14 CFR Chapter I) a new Part 103.

(Secs. 307, 313(a), 601(a), 602 and 603, Federal Aviation Act of 1958 (49 U.S.C. §§ 1348, 1354(a), 1421(a), 1422, and 1423; sec. 6(c), Department of Transportation Act (49 U.S.C. § 1655(c)).

NOTE: The FAA has determined that this regulation is not a major rule under Executive Order 12291. Because the rule will regulate a new user segment and because of substantial public interest, it has been determined that it is a significant rule pursuant to the Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). The total projected costs of this rule may be found in a copy of the regulatory evaluation contained in the public docket. A copy of that evaluation may be obtained by contacting the person identified above under the caption "FOR FURTHER INFORMATION CONTACT." It is certified under the criteria of the Regulatory Flexibility Act that this rule will not have a significant economic impact on a substantial number of small entities. There are very few small entities involved in ultralight vehicle activities and the majority of those will be unaffected by the implementation of this rule.

Part 103—Ultralight Vehicles

Subpart A—General

§ 103.1 Applicability.

This Part prescribes rules governing the operation of ultralight vehicles in the United States. For the purposes of this Part, an ultralight vehicle is a vehicle that:

(a) Is used or intended to be used for manned operation in the air by a single occupant;

(b) Is used or intended to be used for recreation or sport purposes only;

(c) Does not have any U.S. or foreign airworthiness certificate; and,

(d) If unpowered, weighs less than 155 pounds; or

(e) If powered:

(1) Weighs less than 254 pounds empty weight, excluding floats and safety devices which are intended for deployment in a potentially catastrophic situation;

(2) Has a fuel capacity not exceeding 5 U.S. gallons;

(3) Is not capable of more than 55 knots calibrated airspeed at full power in level flight; and

(4) Has a power-off stall speed which does not exceed 24 knots calibrated airspeed.

§ 103.3 Inspection requirements.

(a) Any person operating an ultralight vehicle under this Part shall, upon request, allow the Administrator, or his designee, to inspect the vehicle to determine the applicability of this Part.

(b) The pilot or operator of an ultralight vehicle must, upon request of the Administrator, furnish satisfactory evidence that the vehicle is subject only to the provisions of this Part.

§ 103.5 Waivers.

No person may conduct operations that require a deviation from this Part except under a written waiver issued by the Administrator.

§ 103.7 Certification and registration.

(a) Notwithstanding any other section pertaining to certification of aircraft or their parts or equipment, ultralight vehicles and their component parts and equipment are not required to meet the airworthiness certification standards specified for aircraft or to have certificates of airworthiness.

(b) Notwithstanding any other section pertaining to airman certification, operators of ultralight vehicles are not required to meet any aeronautical knowledge, age, or experience requirements to operate those vehicles or to have airman or medical certificates.

(c) Notwithstanding any other section pertaining to registration and marking of aircraft, ultralight vehicles are not required to be registered or to bear markings of any type.

Subpart B—Operating Rules

§ 103.9 Hazardous operations.

(a) No person may operate any ultralight vehicle in a manner that creates a hazard to other persons or property.

(b) No person may allow an object to be dropped from an ultralight vehicle if such action creates a hazard to other persons or property.

§ 103.11 Daylight operations.

(a) No person may operate an ultralight vehicle except between the hours of sunrise and sunset.

(b) Notwithstanding paragraph (a) of this section, ultralight vehicles may be operated during the twilight periods 30 minutes before official

sunrise and 30 minutes after official sunset or, in Alaska, during the period of civil twilight as defined in the Air Almanac, if:

(1) The vehicle is equipped with an operating anticollision light visible for at least 3 statute miles; and

(2) All operations are conducted in uncontrolled airspace.

§ 103.13 Operation near aircraft; Right-of-way rules.

(a) Each person operating an ultralight vehicle shall maintain vigilance so as to see and avoid aircraft and shall yield the right-of-way to all aircraft.

(b) No person may operate an ultralight vehicle in a manner that creates a collision hazard with respect to any aircraft.

(c) Powered ultralights shall yield the right-of-way to unpowered ultralights.

§ 103.15 Operations over congested areas.

No person may operate an ultralight vehicle over any congested area of a city, town, or settlement, or over any open air assembly of persons.

§ 103.17 Operations in certain airspace.

No person may operate an ultralight vehicle within an airport traffic area, control zone, terminal control area, or positive control area unless that person has prior authorization from the air traffic control facility having jurisdiction over that airspace.

§ 103.19 Operations in prohibited or restricted areas.

No person may operate an ultralight vehicle in prohibited or restricted areas unless that person has permission from the using or controlling agency, as appropriate.

§ 103.21 Visual reference with the surface.

No person may operate an ultralight vehicle except by visual reference with the surface.

§ 103.23 Flight visibility and cloud clearance requirements.

No person may operate an ultralight vehicle when the flight visibility or distance from clouds is less than that in the following table, as appropriate:

Flight Altitudes	*Minimum Flight Visibility*	*Minimum Distance from Clouds*
1,200 feet or less above the surface regardless of MSL altitude:		
(1) Within controlled airspace—	3 statute miles	500 feet above 1,000 feet above 2,000 feet horizontal.
(2) Outside controlled airspace:	1 statute mile	Clear of clouds.
More than 1,200 feet above the surface but less than 10,000 feet MSL:		
(1) Within controlled airspace—	3 statute miles	500 feet below 1,000 feet above 2,000 feet horizontal.
(2) Outside controlled airspace—	1 statute mile	500 feet below 1,000 feet above 2,000 feet horizontal.
More than 1,200 feet above the surface and at or above 10,000 feet MSL:	5 statute miles	1,000 feet below 1,000 feet above 1 statute mile horizontal.

U.S. GOVERNMENT PRINTING OFFICE : 1982 O - 391-761

U.S. Department
of Transportation

**Federal Aviation
Administration**

800 Independence Ave., S.W.
Washington, D.C. 20591

Official Business
Penalty for Private Use $300

Postage and Fees Paid
Federal Aviation
Administration
DOT 515